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ABSTRACT

This monograph utilizes data from the 1985 Survey of Public Participation in the Arts (SPPA '85) to explore the audience composition of United States art museums and galleries. Part 1 focuses on: (1) demographic variables affecting U.S. adult attendance rates; (2) a comparison of the SPPA '85 research data and the 1984 "Americans and the Arts" studies; and (3) a comparison of United States, Great Britain, France, Sweden, and Canada (Quebec) attendance patterns. Part 2 examines barriers to art museum or gallery attendance, while part 3 explores audience socialization factors that affect attendance. Part 4 presents an audience profile based on demographic characteristics and compares it to the general population's profile. An appendix describes an exploratory analysis of the relationship between participation rates and the number of art museums. Tables and graphs are included. (JHP)

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PERSPECTIVES ON THE AMERICAN AUDIENCE FOR ART MUSEUMS

A Research Monograph Based on the
1985 Survey of Public Participation in the Arts

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PREFACE

In this monograph I use data from the Survey of Public Participation in the Arts 1985 (SPPA '85) to explore the composition of the audience for art museums and art galleries in the United States. These data have only recently become available, and they present an opportunity for managers, researchers, and funders in the arts to explore a variety of interesting questions concerning the participation of American adults in artistic activities.

Overall attendance figures have become increasingly important for museums in need of the revenue that comes from increased attendance. And museums are also finding that carefully documenting audience size helps them to make a more persuasive argument to government and private funders (whether or not broadening the range of individuals whom they are serving is one of their primary goals).

At the same time, more and more museums are becoming concerned with the fine-grained detail of whom they are serving and whom they are not serving. For these museums an understanding of their audience is a critical point of departure for a wide variety of management decisions. Accordingly, in this monograph I have constructed a series of profiles of the American audience for art museums and galleries and have outlined a number of the methodological issues that are involved in constructing such profiles. Equipped with the analysis in this monograph, an individual museum will be better able to construct and interpret similar profiles of its own audience. Once a museum has a profile of its audience, it can measure that profile against a variety of bases of comparison--some of which are developed fully in these pages--in order to help answer a number of interesting policy questions. Some of the comparisons a museum might wish to make, along with the policy questions that each comparison helps to address, are summarized on the next page.

Base of Comparison	Policy Questions
The profile of the overall audience for art museums as reflected in SPPA '85 or in other similar studies.	What portions of the population is the museum serving as compared to museums on average?
The profile of the overall population or of the population in the museum's local area.	What segments of the population are underrepresented in the museum's audience?
The audience profile that the museum has set as its target population.	Is the museum serving the segments of the population to which it has targeted its activities?
The staff's impression of what the museum's audience profile is currently.	How well does the museum staff understand the composition of the current audience? Is the programming promoted by the staff meeting the needs of the actual audience?
The audience profile of other similar museums.	How does the museum's experience compare to that of sister museums? Is the museum more successful or less successful than other museums at attracting particular groups to the museum?
The audience profile of other nearby "attractions."	What are the other local educational and leisure opportunities that compete for the audience? To what extent is the museum attracting an audience that is different from the the audience attracted by others? Or, is the museum competing for the same audience?
Changes in the museum's audience profile over time.	How has the audience profile changed? Has it changed because of things that the museum has done differently or because of external factors? Has it changed in ways in which the museum would like its audience to change?

By suggesting these different comparisons I do not mean to suggest that every museum should serve everyone or that each museum should manage itself in a way that will move its audience profile into congruence with any particular one of the bases of comparison. There is a lot of variation among museums in emphasis, in programming, and in location that will and should be reflected in their audience profiles.

Throughout this monograph I use a variety of demographic variables--education, income, age, gender, region, etc.--to sort and describe the audience for art museums. Just as art museums, in order to better manage, preserve, and keep track of their collections, catalog objects in their collections by characteristics that are only peripherally related to the artistic quality of the object--size, medium, mode and date of acquisition, and condition, for example--they would also do well to study, document, and categorize their audiences so that they might better understand their audience and more effectively manage the museum with that audience in mind. Demographics are an important initial step in that understanding. There is undoubtedly a lot more to know about an audience--its attitudes, interests, expectations, satisfactions--but even these personal views and preferences of each audience member can only be fully understood by sorting them by the demographics of the audience member who holds them.

Rather than impose one perspective or point of view on the SPPA data, I have attempted to bring a variety of perspectives to bear. After a brief introduction, I begin Part I by focusing on the overall adult population and asking which segments of this population are most likely to be attenders. I then compare the SPPA '85 results with results from the well-known Louis Harris Americans and the Arts studies. I conclude Part I with a cross-national comparison of how American attendance patterns at art museums compare to those patterns in several other countries for which data are available. In

Part II, I look at the subsections of the adult population that cite barriers to participation or that express a desire for greater attendance in order to understand from where potential expansions in the audience are most likely to come. In Part III, I look at the role that socialization experiences play in museum attendance. And finally, in Part IV, I adopt the perspective of the museums themselves and document the demographic profile of their admissions. I then demonstrate that this profile is the one that is seen by the museums and perceived as "their audience" but that it differs systematically from the profile that results from a straight demographic analysis of the attendance patterns of the overall adult population.

Throughout the monograph I have chosen to present many of the mathematical results in two forms: first as percentages, showing what percentage of each demographic group has a particular attendance pattern; then, in a parallel table, as the raw number per 1,000 adults, showing how many individuals out of 1,000 adults have a particular attendance pattern. The second presentation is likely to be less familiar to the reader, and one needs to be careful in its interpretation.

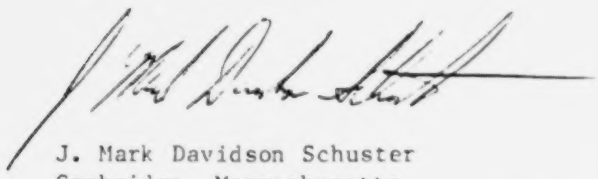
This second presentation of the findings is necessary because of the fundamental difference between the size of a percentage and the size of the population base to which that percentage is to be applied. A small percentage applied to a large base can still represent a large number of people. For example, the SPPA data show that while 58 percent of attenders would like to attend art museums more often, only 23 percent of non-attenders would like to attend. Yet, out of every 1,000 adults, 307 would like to attend more often and 179--well over half--of them are currently non-attenders. Because such a large proportion of the population is non-attenders, the smaller rate of non-attenders who would like to attend still leads to a relatively large number.

It would be impossible to see this without the second presentation focusing on the number of individuals per 1,000 adults.

For the most part, I have avoided tables that estimate the overall size of various segments of the audience for art museums. In part, this is due to the fact that I believe that both the percentages and the numbers per 1,000 adults, because they are bounded numbers, are more comprehensible than large, raw numbers in the millions, which are understood more as numbers that are "very large" than for their relative magnitudes. But it is also due to a wariness of letting bodycounts substitute for more appropriate measures of museum effectiveness. The reader who wishes to extrapolate these findings to population estimates can multiply any of the figures reported in the tables that are expressed in terms of number per 1,000 adults (Tables 1b, 2b, 7b, 9b, 10b, 11b, and 13b) by 170,520. This multiplication will weight these figures to the size of the adult American population in 1985, which the U. S. Bureau of the Census has estimated at 170,520,000 in constructing its own weighting for SPPA '85.

I would like to thank those individuals who served as my surrogate audience by reading and commenting upon drafts of this monograph: Harold Horowitz and Tom Bradshaw of the Research Division at the National Endowment for the Arts, as well as the staff of the NEA Museum Program; Pam Brusic, Executive Director of the New England Museum Association; Gary Burger, Director of the Berkshire Museum; Janet Saleh Dickson, Curator of Education, Yale University Art Gallery; and Professor Joe Ferreira, Department of Urban Studies and Planning, Massachusetts Institute of Technology. They have forced me to clarify both my thinking and my presentation. Thanks also to Jun Han who served as my Research Assistant and handled the intricacies of the computer programming with ease, competence, and good humor.

I hope that I have have not misread the members of my broader audience, and I hope that they all will find something of use for their professional work in these pages. I look forward to the debate that will continue as other researchers attempt to make further sense of these and other data in order to better understand the composition of the American audience for art museums and art galleries and the implications of that audience profile for the future of these institutions.



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July 1987

INTRODUCTION: WHO ARE THE VISITORS TO ART MUSEUMS?

Who are the people who attend art museums? What are their demographic characteristics? And how well can one predict whether or not an individual will attend an art museum by knowing something about his or her characteristics?

And who are the people who do not attend art museums? What are their demographic characteristics? Might it be possible to expand and shape the current audience for art museums either by attracting people who are not currently attenders or by increasing the frequency of attenders' attendance?

There was a time when these questions would have seemed oddly inappropriate. Until the mid-nineteenth century most museums were founded around private collections, and access was restricted to an audience selected by the collector, though few went to such great lengths as Sir Ashton Lever in 1773:

> This is to inform the Publick that being tired out with the insolence of the common People, who I have hitherto indulged with a sight of my museum (at Alkrington), I am now come to the resolution of refusing admittance to the lower class except they come provided with a ticket from some Gentleman or Lady of my acquaintance. And I hereby authorize every friend of mine to give a ticket to any orderly Man to bring in eleven Persons, besides himself whose behavior he must be answerable for, according to the directions he will receive before they are admitted. They will not be admitted during the time of Gentlemen and Ladies being in the Museum. If it happens to be inconvenient when they bring their ticket, they must submit to go back and come some other day, admittance in the morning only from eight o'clock till twelve.(1)

In the late eighteenth century, individuals who wished to visit the British Museum had to present their credentials at the office and await word, sometimes for months, as to whether they would receive an admission ticket.(2) But there are more recent examples as well. It was not until 1960 that the Barnes Foundation in Philadelphia was forced, in exchange for its status as a

tax-free institution, to open its doors to the general public, though admissions were still limited to 400 per week.(3) One has to ring the bell and sign in to be admitted to Sir John Soane's Museum in London. But restrictions of this sort are now used more to ration a scarce resource--limited hours and a small physical space--than to restrict admission to particular classes of individuals.

In the nineteenth century, particularly in the United States, the distinction between private and public museums began to fade. Burt suggests that the American museum began with a deliberate appeal to the public.(4) The motivation for establishing a museum became not so much the need to house a collection as the desire to provide an opportunity for the general edification of the public. Yet, by the 1940's the Committee on Education of the American Association of Museums still felt that museums had not taken their education potential seriously enough and asked Theodore Low to write what became a widely distributed essay arguing that museums should see themselves as "social instruments."(5) Thus, the seeds of the debate between the education and outreach functions of a museum and the conservation, preservation, and art scholarship functions were planted early; and that debate has continued to be an important element in considerations of museum policy.

In the last decade, with the rise of both public and private nonprofit funding mechanisms that take a large part of their mandate to be increasing the breadth of exposure of Americans to the arts, these questions have become even more important in public discourse concerning museums. At the same time, museums are beginning to adopt some of the vocabulary and mannerisms of the private sector through identifying their "consumers" and potential consumers and "marketing" their services, activities that require a much more fine-grained understanding of the composition of their audiences.(6)

There is a longer tradition of audience studies among art museums than perhaps among any other type of arts institution. In part, this is because historically museums have been seen (and, to a lesser degree, have seen themselves) more as educational institutions, with a corresponding concern for reaching all parts of the population, than have performing arts organizations. But it is also because museum exhibits offer wonderfully controlled environments for behavioral studies. Many museums have taken their audiences very seriously. Careful behavioral studies have been made of the paths visitors take through exhibitions, how long they stay, what their expectations are before entering the museum, what things they recall after the visit, and--often incidentally--who the visitors actually are in terms of their demographics. Some of the best work is still the pathbreaking research done under Edward Robinson at Yale University in the 1920's and 1930's.(7)

Evidence from a number of museum audience studies, along with studies from the performing arts, was brought together for the first time in 1977 by DiMaggio, Useem and Brown.(8) Aggregating the results of a variety of diverse studies and, of necessity, basing their conclusions on a logical train of careful estimates and caveats, they summarized the demographic composition of the public for the arts in the United States:

> ...the audience for the arts is more highly educated, is of higher occupational status, and has a higher income than the population as a whole.
>
> ...women were slightly overrepresented in the arts audience...
>
> The median age of the arts audience was close to the median age of the population at large but varied widely from audience to audience.
>
> ...minorities were present in proportions smaller than their share of relevant metropolitan populations.

And, with respect to the public for museums:

> Museum visitor populations were somewhat more representative of the American public than were the performing arts audiences surveyed.
>
> The museum surveys found smaller proportions of professionals and the well educated, (and) had lower median incomes than did studies of performing arts audiences.
>
> The art museum visitor population was better educated, wealthier, older, and composed of more professionals than visitors to history, science, or other museums.(9)

These results were not terribly surprising; they reinforced widely-held views on the composition of the arts audience. Yet, because these results are based on a wide variety of studies that are not inherently comparable, they are, at best, only suggestive of the audience profile of art museums. What might an extensive, careful cross-sectional survey of the entire American adult population reveal about visitors to art museums that had fallen into the interstices between previous audience studies?

The Survey of Public Participation in the Arts, sponsored by the National Endowment for the Arts and conducted by the U.S. Bureau of the Census in collaboration with the University of Maryland, is the first major attempt to collect coherent data on arts attendance and participation across the entire adult population of the United States. The Survey was first undertaken in 1982 and repeated in 1985 with the expectation that it will be repeated on a regular basis so that the behavior of the arts audience can be studied over time. Throughout this monograph I use data from the 1985 Survey of Public Participation in the Arts in which a probability sample of the American adult population was taken and 13,675 adults were interviewed between January and June 1985. Because of the scale of this study and the care with which it was taken, it is possible for the first time to address questions of practical significance concerning audiences for the arts without running out of statistical significance.

PART I: THE DEMOGRAPHICS OF PARTICIPATION RATES

What percentage of the adult American population visits an art gallery or art museum over the period of a year? Take a moment to answer the question for yourself before reading on. Your answer to this basic question will undoubtedly color your reaction to the data that I will report throughout this monograph, and it will be very useful to calibrate your reactions before beginning. Make a guess...

When asked if they had visited an art museum or art gallery in the twelve months preceeding their SPPA '85 interview, 22 percent of the adult American population said that they had. Two out of every nine adults.

I have been carefully rigorous in choosing my words to present this number, more careful than I will be later in this report because of the cumbersomeness of such lengthy description, but it is useful to begin in this way because it calls attention to the fact that care must be taken in interpreting these numbers. First of all, the key attendance question grouped art museums and art galleries together. As a result, the survey may be picking up individuals who were actually reporting visits to private commercial art galleries rather than visits to museums that happen to be called galleries (e.g., the Walker Art Gallery, the National Gallery, or the Yale University Art Gallery). If everyone who shopped in a gallery also attended a museum in the preceeding year, then there is likely to be little bias; if not, then there is a bias whose aggregate effect is unknown. Secondly, the data are based on recollection of activities over the previous twelve months, recollections that might not be entirely accurate. Moreover, the numbers summarize what people say they did rather than document what they actually did. While these caveats may limit one's confidence in the absolute numbers, they do not necessarily affect relative demographic comparisons.

Table 1a: ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985
PARTICIPATION RATES BY VARIOUS DEMOGRAPHIC VARIABLES

Question: During the last 12 months did you visit an art gallery or an art museum?

		Participation Rate
	Overall	
Of all	Adults,	22% attended
	Income	
Of adults whose family income was	< $5,000,	16% attended
	$5,000- $9,999,	11% attended
	$10,000-$14,999,	15% attended
	$15,000-$24,999,	19% attended
	$25,000-$49,999,	28% attended
	> $50,000,	45% attended
	Education	
Of adults whose highest education level was	Grade School,	4% attended
	Some High School,	11% attended
	High School Grad,	14% attended
	Some College,	29% attended
	4 Yr College Grad,	45% attended
	Graduate School,	55% attended
	Age	
Of adults whose age was	18-24 years,	22% attended
	25-34 years,	25% attended
	35-44 years,	27% attended
	45-54 years,	23% attended
	55-64 years,	18% attended
	65-74 years,	16% attended
	75+ years,	10% attended
	Gender	
Of adult	Females,	23% attended
	Males,	21% attended
	Race	
Of adults whose race is	Black,	11% attended
	White,	23% attended
	Other,	25% attended
	Urbanization	
Of adults who lived in an SMSA and	in Central City,	25% attended
Of adults who lived in an SMSA but	not Central City,	26% attended
Of adults who lived	outside an SMSA,	14% attended

Table 1a: ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985
PARTICIPATION RATES BY VARIOUS DEMOGRAPHIC VARIABLES (continued)

	Region	Participation Rate
Of adults who lived in the	Northeast,	20% attended
	Midwest,	21% attended
	South,	19% attended
	West,	31% attended

	Subregion	
Of adults who lived in	New England,	25% attended
	Mid Atlantic,	19% attended
	East Northcentral,	20% attended
	West Northcentral,	22% attended
	South Atlantic,	19% attended
	East Southcentral,	10% attended
	West Southcentral,	23% attended
	Mountain,	28% attended
	Pacific,	32% attended

	Selected States*	
Of adults who lived in	California,	32% attended
	Florida,	19% attended
	Georgia,	18% attended
	Illinois,	22% attended
	Indiana,	24% attended
	Massachusetts,	27% attended
	Michigan,	21% attended
	New Jersey,	18% attended
	New York,	22% attended
	Ohio,	13% attended
	Pennsylvania,	15% attended
	Texas,	26% attended
	Virginia,	31% attended
	North Carolina,	13% attended

	Occupation	
Of adults whose occupation was classified	Professional,	49% attended
	Managerial,	37% attended
	Sales/Clerical,	27% attended
	Craftsman,	14% attended
	Operatives,	9% attended
	Laborers,	10% attended
	Service Workers,	16% attended

Source: "Survey of Public Participation in the Arts," 1985.

Note: * These are the only states for which the U.S. Bureau of the Census has prepared cross-tabulations.

Table 1b: ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985
PARTICIPATION PER 1,000 ADULTS BY VARIOUS DEMOGRAPHIC VARIABLES

Question: During the last 12 months did you visit an art gallery or an art museum?

		Participation
Overall		
Out of every 1,000	Adults,	219 attended
Income		
Of the 82 whose family income was	< $5,000,	13 attended
Of the 126 whose family income was	$5,000- $9,999,	14 attended
Of the 143 whose family income was	$10,000-$14,999,	21 attended
Of the 247 whose family income was	$15,000-$24,999,	47 attended
Of the 308 whose family income was	$25,000-$49,999,	85 attended
Of the 94 whose family income was	> $50,000,	42 attended
		222
Education		
Of the 110 whose highest education level was	Grade School,	4 attended
Of the 118 whose highest education level was	Some High School,	8 attended
Of the 376 whose highest education level was	High School Grad,	53 attended
Of the 203 whose highest education level was	Some College,	60 attended
Of the 110 whose highest education level was	4 Yr College Grad,	50 attended
Of the 82 whose highest education level was	Graduate School,	45 attended
		220
Age		
Of the 161 whose age was	18-24 years,	35 attended
Of the 238 whose age was	25-34 years,	61 attended
Of the 182 whose age was	35-44 years,	48 attended
Of the 132 whose age was	45-54 years,	30 attended
Of the 130 whose age was	55-64 years,	24 attended
Of the 97 whose age was	65-74 years,	16 attended
Of the 59 whose age was	75+ years,	6 attended
		220
Gender		
Of the 528	Females,	121 attended
Of the 472	Males,	99 attended
Race		
Of the 108 whose race is	Black,	12 attended
Of the 873 whose race is	White,	203 attended
Of the 19 whose race is	Other,	5 attended
		220
Urbanization		
Of the 271 who lived in an SMSA and	in Central City,	69 attended
Of the 413 who lived in an SMSA but	not Central City,	107 attended
Of the 316 who lived	outside an SMSA,	44 attended
		220

Table 1b: ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985
PARTICIPATION PER 1,000 ADULTS BY VARIOUS DEMOGRAPHIC VARIABLES
(continued)

		Participation
	Region	
Of the 209 who lived in the	Northeast,	42 attended
Of the 252 who lived in the	Midwest,	53 attended
Of the 344 who lived in the	South,	64 attended
Of the 195 who lived in the	West,	60 attended
		219
	Subregion	
Of the 54 who lived in	New England,	13 attended
Of the 155 who lived in	Mid Atlantic,	29 attended
Of the 182 who lived in	East Northcentral,	37 attended
Of the 70 who lived in	West Northcentral,	16 attended
Of the 180 who lived in	South Atlantic,	35 attended
Of the 66 who lived in	East Southcentral,	7 attended
Of the 98 who lived in	West Southcentral,	23 attended
Of the 46 who lived in	Mountain,	13 attended
Of the 149 who lived in	Pacific,	47 attended
		220
	Selected States*	
Of the 114 who lived in	California,	36 attended
Of the 46 who lived in	Florida,	9 attended
Of the 29 who lived in	Georgia,	5 attended
Of the 48 who lived in	Illinois,	11 attended
Of the 22 who lived in	Indiana,	5 attended
Of the 24 who lived in	Massachusetts,	6 attended
Of the 43 who lived in	Michigan,	9 attended
Of the 31 who lived in	New Jersey,	5 attended
Of the 75 who lived in	New York,	16 attended
Of the 50 who lived in	Ohio,	7 attended
Of the 49 who lived in	Pennsylvania,	7 attended
Of the 64 who lived in	Texas,	17 attended
Of the 27 who lived in	Virginia,	8 attended
Of the 32 who lived in	North Carolina,	4 attended
	Occupation	
Of the 89 whose occupation was classified	Professional,	44 attended
Of the 85 whose occupation was classified	Managerial,	32 attended
Of the 240 whose occupation was classified	Sales/Clerical,	64 attended
Of the 91 whose occupation was classified	Craftsman,	13 attended
Of the 73 whose occupation was classified	Operatives,	7 attended
Of the 80 whose occupation was classified	Laborers,	8 attended
Of the 108 whose occupation was classified	Service Workers,	17 attended

Source: "Survey of Public Participation in the Arts," 1985.

Note: * These are the only states for which the U.S. Bureau of the Census has prepared cross-tabulations.

Two out of every nine adults. This overall participation rate for adults is a convenient base of comparison around which we can then ask which subgroups of the population are more likely to be museumgoers and which are less likely. Table 1a summarizes participation rates across a variety of demographic variables. Table 1b presents attendance patterns across the same demographic variables in raw terms by asking, "Out of every 1,000 adults in the American population, how many have particular demographic characteristics and attendance patterns?"

Income: As income rises the participation rate rises, from 11 percent of those between $5,000 and $10,000 to 45 percent of those with income greater than $50,000. Thus, differences in income levels are particularly helpful in explaining relative likelihood of attendance. Comparing Table 1b to Table 1a, however, reminds us that though the participation rate is highest in the highest income group, more than a third of the art museum audience actually comes from the $25,000-$49,999 income group because that income group is the largest one in the adult population.

There is one exception to the general increase in the probability of attendance over income, though: a decrease from 16 percent to 11 percent between the lowest and the next lowest income categories. An important component of this seeming anomaly is the fact that adults who are currently students are disproportionately in the lowest income group, yet their attendance pattern differs markedly from the non-students in the same income group. Thus, there is a third variable that confuses the interpretation of the pure income effect. It can be argued that students adopt the attendance patterns of the people whom they will be like when they graduate more than they adopt the behavior patterns of their non-student contemporaries. This is clearly most important when trying to estimate the effect of income, education, or occupation on attendance.

Previous analyses of arts audiences have controlled for this factor in one of two ways: by simply separating students out of the analysis and treating their attendance behavior separately or by inferring expected income levels and education levels and attributing students' attendance to those categories.(10) I adopt the former approach here. Table 2a shows participation rates separating out students and non-students.

Table 2a: ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985
PARTICIPATION RATES BY INCOME: OVERALL, NON-STUDENTS, AND STUDENTS

Income	Participation Rate All Adults	Participation Rate Non-Students	Participation Rate Students
< $5,000	16% attended	13% attended	44% attended
$5,000- $9,999	11% attended	11% attended	45% attended
$10,000-$14,999	15% attended	14% attended	29% attended
$15,000-$24,999	19% attended	19% attended	17% attended
$25,000-$49,999	28% attended	28% attended	39% attended
> $50,000	45% attended	45% attended	50% attended
Overall	22% attended	22% attended	36% attended

Source: "Survey of Public Participation in the Arts," 1985.

Table 2b: ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985
PARTICIPATION PER 1,000 ADULTS BY INCOME:
OVERALL, NON-STUDENTS, AND STUDENTS

Income	All Adults	Participation	Non-Students	Students
< $5,000	82	13 attended	10 attended	3 attended
$5,000- $9,999	126	14 attended	13 attended	1 attended
$10,000-$14,999	143	21 attended	20 attended	1 attended
$15,000-$24,999	247	47 attended	46 attended	1 attended
$25,000-$49,999	308	85 attended	83 attended	2 attended
> $50,000	94	42 attended	41 attended	1 attended
	1,000	222	213	9

Source: "Survey of Public Participation in the Arts," 1985.

While the variation across income categories for students may be partially the result of small numbers of cases in each category on which the estimate participation rates are based (see Table 2b), the overall picture is quite clear. Adults who are currently students are much more likely to be attenders than are other adults.

Education: Educational level is clearly correlated with participation rate. The rate rises from 4 percent of adults with a grade school education to 55 percent of adults with some graduate school education, a difference of 51 percentage points. Taking this difference between the highest participation rate and the lowest participation rate when measured over the same variable as a rough measure of the ability of a variable to predict differences in attendance levels, education is the most important predictive variable in this list of demographic variables. (For income the corresponding difference is 29 percentage points.)

Even though participation rates are highest at the highest education levels, well over half of the audience is comprised of individuals who have completed less than a full college education (Table 1b). Again, this is because of the relative size of these groups in the adult population.

To understand the full effect of education on participation rates separating students from non-students is once again important. While understandably there are very few current adult students in the first three education categories, there are a number who are enrolled in college and their participation rates are quite high: 38% for students with some college education, 37% for college graduates, and a very high 67% for students in graduate school. (This last participation rate is one of the highest that I found in my analysis of the data. Yet, with the introduction of additional "third" variables, it is possible that this participation rate would become even higher.) As with income above, once the students are separated out of

the adult population the participation rates by education for non-students differ very little from the overall distribution for all adults.

Age: Participation rates are roughly constant in the low to mid twenty percent range until age 55 where they begin to tail off. The highest participation rate, 27 percent, occurs in the 35-44 year bracket, perhaps reflecting increased attendance among families with children.

Gender: Women are slightly more likely to attend than are men. Coupled with the fact that there are more women in the adult population than men, this means that among visitors to art museums women outnumber men by a ratio of 6:5.

Race: There is a clear difference in the participation rate between blacks and whites, with whites roughly twice as likely to have visited an art museum in the previous year as blacks. But much of this difference may be attributable to differences in education level or income level between whites and blacks rather than to actual racial differences. On average, other racial and ethnic groups have a participation rate that is approximately the same as that of whites.

Geographic Distribution: In Tables 1a and 1b, I have summarized audience participation according to four different geographic variables. The first measures urbanization. Adults who lived in a Standard Metropolitan Statistical Area (SMSA), a U.S. Bureau of the Census designation that is used here as a rough indicator of urbanization, had slightly higher than average participation rates whether or not they actually lived in the Central City of that SMSA. Adults who lived outside an SMSA showed a participation rate that was only two-thirds of the average participation rate. Roughly half of the audience was made up of individuals who lived in an SMSA but not in the central city.

An analysis of the population by region of the country shows interesting

variations across the country, particularly at lower levels of aggregation.(11) While the participation rates for the Northeast, Midwest and South are all roughly 20 percent, the participation rate in the west is substantially higher at 31 percent. An analysis by subregion shows that New England has a participation rate that is somewhat higher than average but that the Mountain states and the Pacific states have considerably higher participation rates. High participation rates in the west are particularly focused in the large metropolitan areas. According to special Census Bureau tabulations for selected metropolitan areas, the highest metropolitan area participation rates are all in the western states: a very high 41 percent in the San Francisco bay area, 28 percent in the Los Angeles area, 38 percent in other central cities in SMSAs in the west, and 33 percent outside of the central cities in the same SMSAs. In addition, Boston has a 26 percent participation rate, Baltimore/Washington, D.C. 26 percent, Chicago 27 percent, and cities in Texas 31 percent.

The available data for selected states reflect the regional figures in certain cases--a 32 percent participation rate in California and 27 percent in Massachusetts, but also point out some less expected results in the light of the regional aggregates--26 percent in Texas and 31 percent in Virginia. One wonders if the high participation rate for Virginia is a function of the easy accessibility of the national museums in Washington, D.C. to the bulk of Virginia's urban population.

This possibility, in turn, suggests an important possible explanation for the differences in participation rates for each of the geographic variables. Is the variation in participation better explained by the geographic distribution of museums than by geographic differences in the population? In other words, to what extent is attendance a function of the supply of museums rather than of the demand for museums inherent in the demographics of

particular populations? I have explored this question to a limited extent, and the results of this inquiry are presented in the Appendix.

Occupation: Participation rates by occupational category range from a low of 9 percent for operatives (machine operators) to a high of 49 percent for professionals, a large range of 40 percentage points. Both the managerial and the professional categories show participation rates well above the overall average, but both categories also have higher than average incomes and education levels, so looking at occupation by itself may mask the effect of these other important variables.

Up to this point my analysis of the SPPA '85 data has been a relatively straightforward one, based on the demographic variables that are commonly cited as important in analyzing audience participation in the arts and across which significant differences in participation rates are, in fact, observed. But this group of variables has a very interesting common property: they are all variables over which neither the individual museum nor any arts funding agency has any influence (except, perhaps, by actually moving the museum!). They are not instrumental variables.

It is difficult, for example, to imagine the museum that would be in a position to increase the level of formal education or income of its potential audience in order to increase the local participation rate! We are left with the subconscious impression that potential visitors are prisoners of their own demographics or that museums are prisoners of the demographics of their potential local audiences. While this may in a sense be true in the aggregate across demographic groups, it does not help to unravel the individual decisions taken by potential visitors in choosing whether or not to attend a museum.

To be sure, a demographic analysis will help to document that the

audience is much larger than had been hoped or smaller than had been feared, or that particular segments of the population are not being reached as much as the museum or public policy might like. But its usefulness in suggesting how a museum can go about changing its audience demographics is limited. It can indicate if the overall demographics of the audience have changed over time, but attributing those changes to specific interventions is difficult. Change in audience composition is a slow, resistant process. A demographic analysis of the audience is descriptive rather than prescriptive, and one should resist the temptation to conclude that one knows more than one actually does about audience behavior and motivations when armed with these demographic results.

PARTICIPATION RATES CONTROLLING FOR "THIRD" VARIABLES

At several points in the preceeding section I suggested that the interpretation of participation rates by single demographic variables may be misleading. Are the high participation rates for upper income groups a function of that income level or of the fact that upper income individuals also tend to be more highly educated? Is the difference in participation rates between whites and blacks a product of an inherent racial difference in museum attendance or can it be attributed to differences in education and income levels? In order to make more definitive statements concerning the effect of certain demographic variables, it is necessary to control for and separate out the effects of other variables that might confound the results. In this section I discuss the findings of two different methods of controlling for other variables, multiple classification analysis and logit analysis.

Multiple Classification Analysis

Multiple classification analysis (MCA) is a method for calculating the net value of the dependent variable for each category of each independent variable, explicitly controlling for other independent variables that have been specifically considered through a process of averaging out their effects.(12) In the current example, MCA estimates the additional effect of each independent variable on the participation rate after controlling for the other independent variables. MCA then adds (or subtracts) this additional effect to (from) the participation rate to create an "adjusted" participation rate. This adjusted participation rate reflects, as much as is mathematically possible, the pure effect of the independent variable on the participation rate, with the effects of the other independent variables averaged out mathematically.

Table 3 summarizes the results of a multiple classification analysis of participation rates that considered eight independent variables: five main independent variables--income, education, age, gender, and region--and four covariates--marital status, number of children, race, and number of hours worked per week. The first column reports the participation rates for each of the main independent variables when it is considered by itself (prior to MCA); the second column reports the adjusted participation rate for each variable once it has been controlled for the other variables through MCA.

The interpretation of the results in Table 3 is best demonstrated through an example. Take the participation rate in the West: 31 percent of the adults who live in the West visited an art museum in the previous year, a higher participation rate than in any other region. But is that difference due to inherent regional differences, or is it due to the fact that incomes are perhaps higher in these states, or that educational levels are higher, or that people, on average, are younger? Controlling for the seven other independent variables decreases the participation rate in the West (and raises the participation rate in the South to the level of the Northeast and the Midwest). The "pure" effect of the regional difference, as best one is able to measure it in this model, is that the participation rate in the West, when controlled for the other variables, is 28 percent, 7 percentage points higher than in the other regions.

Of course, one cannot tell from these results alone whether the remaining difference is due to some inherent "regionalness" or to some other variable that has not yet been included in the analysis (such as the geographic distribution of museums, as mentioned above). In this sense, the adjusted participation rates should not be thought of as the "right" participation rates; they should be thought of as an attempt to isolate the effect of one explanatory variable in the context of other, specified explanatory variables.

Table 3: COMPARISON OF UNADJUSTED AND ADJUSTED PARTICIPATION RATES, 1985

Question: During the last 12 months did you visit an art gallery or an art museum?

	Participation Rate	MCA Adjusted* Participation Rate
Overall	22%	22%
Income		
< $5,000	16%	22%
$5,000- $9,999	11%	19%
$10,000-$14,999	15%	19%
$15,000-$24,999	19%	20%
$25,000-$49,999	28%	24%
> $50,000	45%	32%
Education		
Grade School	4%	7%
Some High School	8%**	9%
High School Grad	14%	15%
Some College	29%	28%
4 Yr College Grad	45%	43%
Graduate School	55%	54%
Age		
18-24 years,	22%	23%
25-34 years	26%**	25%
35-44 years	27%	24%
45-54 years	23%	21%
55-64 years	18%	20%
65-74 years	17%**	21%
75+ years	10%	14%
Gender		
Females	23%	24%
Males	21%	20%
Region		
Northeast	21%**	21%
Midwest	21%	21%
South	19%	21%
West	31%	28%

Source: "Survey of Public Participation in the Arts," 1985.

Notes: * In this example, multiple classification analysis (MCA) is used to control for five main effect variables--income, education, age, gender, and region--and four covariates--marital status, number of children, race, and number of hours worked per week. Each adjusted participation rate separates the effect of one variable by controlling for the effect of the other seven.

** These rates differ slightly from those in Table 1 because missing values necessitated dropping more cases from the analysis.

Unfortunately, the model summarized in Table 3 does not include all of the variables discussed earlier in this monograph. In order to protect the identities of the survey respondents, the Bureau of the Census has masked most of the geographic variables on the data tape that has been made available to individual researchers. But, at the same time, the Bureau prepared a number of prepackaged analyses of its own using the geographic variables; the model presented in Table 3 is one of these analyses based on the variables that the Bureau happened to include. In order to present a model that included "region" as a variable, this one was the only choice available.

Overall, the results in Table 3 lead to some interesting conclusions concerning attendance at art museums. Income, when viewed in isolation, appears to be a useful predictor of museum attendance: participation rates range from a low of 11 percent to a high of 45 percent. But when one controls for the influence of the other seven demographic variables, the direct relationship between income and attendance nearly disappears; the adjusted participation rate is roughly constant--approximately 20 percent--over the lowest five income groups, and only finally jumps to 32 percent in the highest income group.

This is an important result. It indicates that one should not make the mistake of assuming that income is an important predictor of museum attendance; it is highly correlated with other variables that turn out to be better predictors, particularly education.

After adjustment, participation rates by educational level are slightly closer together than they were beforehand, but the range from the smallest to the highest participation rate is still very large--47 percentage points--indicating that controlling for other variables hardly diminishes education's ability to predict attendance. This result further underlines the importance of education as the key demographic predictor variable.

After adjustment, the effect of age on attendance nearly disappears, not unlike income. The adjusted participation rates are fairly constant in the low 20s, and they do not fall off until more than 75 years of age.

While multiple classification analysis reduced the effect of most variables, it slightly increased the effect of gender. The adjusted ratio of female to male participation rates is 24:20, whereas it was 23:21 before adjustment. Because women live longer and tend to have lower educational levels than men, on average, when the effects of those variables are removed it becomes clear that women are even more likely to attend--though, to be sure, the difference is not a dramatic one.

Beyond the question of which variable is most helpful in predicting variation in attendance levels, lies the question of how good a job can be done at explaining variation in attendance levels when all eight independent variables are used simultaneously? This can be measured with the multiple R squared statistic, which for the model summarized in Table 3 is .147; 14.7 percent of the variation in attendance is explained by these eight independent variables when they are combined in the multiple classification model. If the model had been able to predict attendance perfectly, this statistic would have been 1.00--100% of the variation would have been explained.

The fact that this statistic is so low indicates that there is a good deal about the decision whether or not to attend that cannot be explained with this model; these demographic variables help explain something about attendance but they by no means determine it. Yet, it would be misleading to conclude that we have done a "bad" job with this model or with this type of analysis. Because inquiry into attendance patterns based on a cross-sectional analysis of the adult population has received so little attention, there has been little opportunity to improve and refine attendance models. Viewed from

this perspective, 14.7% should be viewed in relation to how well social science has done to date rather than on some absolute scale. Unfortunately, other cross-sectional studies and earlier analyses with the SPPA data have not reported summary statistics of this sort, so it is not known if this model represents an improvement in explanatory ability. In any event, this result from SPPA '85 can be viewed as a base of comparison to which future inquiries and other models can be compared.

A simple distinction between the one-variable-at-a-time demographic analysis in the previous section and multiple classification analysis is reflected in the way in which the analysis will be used. The former emphasizes prediction--what is the probability that someone who lives in the West will be an attender?--while the latter emphasizes explanation--How much does living in the West contribute, by itself, to the participation rate? Of course, it might also be interesting and useful to predict participation rates for smaller population subgroups that are defined by several variables: What is the participation rate for white, urban, college-educated males? While this question could be addressed through creating a five dimensional contingency table, such an analysis quickly becomes unwieldy. I turn instead to logit analysis, which has the added benefit of allowing us to address questions of statistical significance as well as of prediction.

Logit Analysis

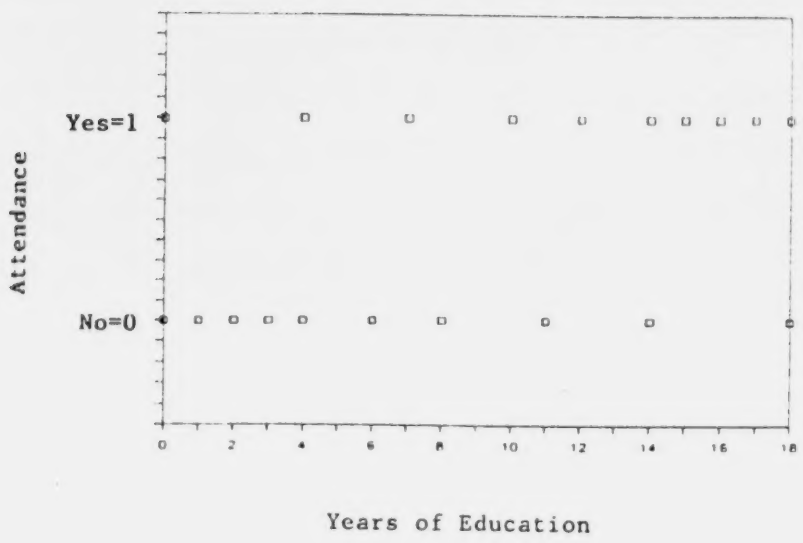
While multiple classification analysis focuses on the average value of the dependent variable for each value of each independent variable (while controlling for all other independent variables), it is often instructive to look instead at the marginal contribution that increases in each independent variable make to the dependent variable. If, for example, one were interested in the relationship between participation rates across states and the median

level of family income in those states, it would be useful to calculate how much the participation rate increases (or decreases) on average for every $1,000 increase in median family income. Ordinarily, one would use regression analysis to accomplish this; regression analysis is a mathematical procedure that fits a straight line to data in order to identify how much an increase of one unit in an independent variable increases the dependent variable whose behavior is being analyzed. (e.g., How much does an increase of one year in education level increase the participation rate?)

In measuring museum attendance the dependent variable in which one is interested is a dichotomous variable. Each individual either attended in the previous year or did not attend, and the individual's attendance can be expressed with a one (if he or she did not attend) or with a zero (if he or she did attend). In order to test the mathematical relationship between this type of dependent variable and a series of independent variables a variation of regression analysis called logit analysis is often used.

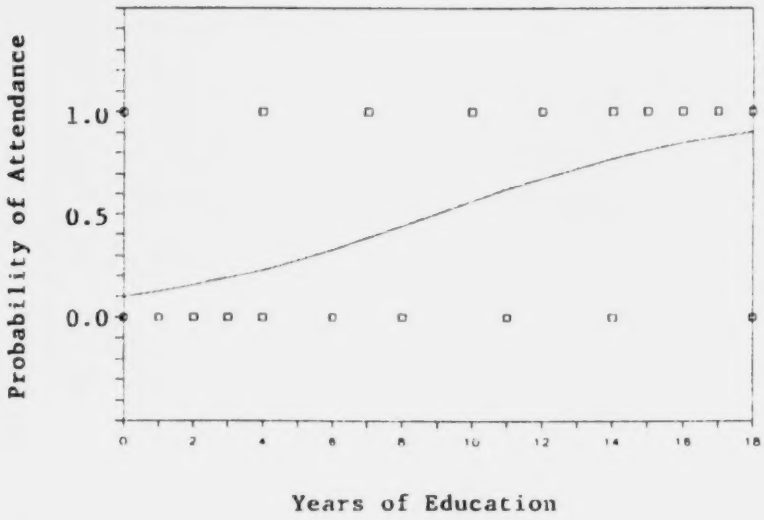
A logit analysis uses the collected data on the attendance pattern of individuals to predict what the probability of attendance for another individual with a particular set of characteristics would be.(13) Without delving into the intricate mathematics of logit analysis, it is possible to present the essential idea with a simple example. Consider two variables: whether or not an individual attended an art museum in the previous year and that individual's number of years of education. Suppose also that a sample of 20 individuals revealed that 10 of them had attended and that 10 had not attended. Graphing these two variables for these 20 cases might lead to a graph like Figure 1a. Each square in Figure 1a represents one surveyed individual and plots the number of years of education versus whether or not that person attended an art museum in the previous year.

Figure 1a: Sample Attendance Data Graphed by Years of Education



Using these data as a starting point, logit analysis fits an "s-shaped" curve to the data as in Figure 1b. The shape of the curve reflects the fact that the data show that individuals with fewer years of education are much less likely to have attended an art museum than are individuals with more years of education. Note that the vertical axis of Figure 1b is labelled "Probability of Attendance." The logit analysis uses the actual attendance pattern for the 20 sampled individuals as the basis for predicting the probability of attendance for other individuals whose educational levels are known but whose attendance pattern is unknown. Thus, the height of the logit curve reflects the relative percentage of individuals who attended at each level of education. For example, on the basis of these data and the logit analysis a individual with 9 years of education is predicted to have a probability of .50 of attending an art museum.

Figure 1b: Logit Curve Fitted to Sample Data



While it is not particularly important to understand the exact mathematical mechanism whereby this is accomplished, it may be helpful for some readers to understand that the logit equation is an equation in which the "natural logarithm" (logarithm to the base "e"--a number equal to 2.7183) of the odds ratio (the probability of attending divided by the probability of not attending) is predicted as a linear combination of the independent variables. In this way, the separate marginal contribution of each of the independent variables to the log of the odds ratio can be calculated as the "coefficient" of each variable. (By comparison, ordinary regression analysis calculates the separate marginal contribution of each of the independent variables directly to the dependent variable.) Through mathematically transforming the result, the probability of attendance for any individual can be calculated.

Table 4 summarizes the results of a logit analysis that predicts the probability of attendance from a set of the key demographic variables discussed above. The coefficients measure the contribution of each of the independent variables to the natural logarithm of the odds ratio. The intercept is the value of the natural logarithm of the odds ratio when all of the independent variables are equal to zero, and it is necessary to set the logit curve in the proper place. At the bottom of Table 4, I use the logit equation resulting from the logit analysis to calculate the predicted probability of attendance for a particular individual whose demographic profile is given there. (This same individual is used as an example throughout the monograph.)

Table 4: LOGIT RESULTS: PREDICTING ATTENDANCE

Variable		Coefficient	Significant at .05 Level?
Intercept		-6.075	
INC2	= 1 if $4,999 < income < $10,000 = 0 otherwise	-0.150	No
INC3	= 1 if $9,999 < income < $15,000 = 0 otherwise	-0.123	No
INC4	= 1 if $14,999 < income < $25,000 = 0 otherwise	-0.004	No
INC5	= 1 if $24,999 < income < $50,000 = 0 otherwise	+0.201	Yes
INC6	= 1 if $49,999 < income = 0 otherwise	+0.563	Yes
AGE	= age in years	-0.004	Yes
RACE2	= 1 if individual is black = 0 otherwise	-0.815	Yes
RACE3	= 1 if individual is "other" = 0 otherwise	-0.064	No
GEND	= 1 if female = 0 if male	+0.355	Yes
EDU	= number of years of formal education	+0.328	Yes
SMSA1	= 1 if in central city of an SMSA = 0 otherwise	+0.689	Yes
SMSA2	= 1 if in SMSA but not in central city = 0 otherwise	+0.450	Yes
STU1	= 1 if currently a student	+0.393	Yes

R-Squared = .16

Logit Equations: P = Probability of attendance for a particular individual.

$$\text{Natural logarithm } (P/1-P) = -6.075 - 0.150(INC2) - 0.123(INC3) - 0.004(INC4) + 0.201(INC5) + 0.563(INC6) - 0.004(AGE) - 0.815(RACE2) - 0.064(RACE3) + 0.355(GEND) + 0.328(EDU) + 0.689(SMSA1) + 0.450(SMSA2) + 0.393(STU1)$$

Example: White female, 40 years old, 16 years of formal education (college graduate), lives in the central city of an SMSA, not currently a student, with an income $15,000-$24,999.

$$\text{Natural logarithm } (P/1-P) = -6.075 - 0.150(0) - 0.123(0) - 0.004(1) + 0.201(0) + 0.563(0) - 0.004(40) - 0.815(0) - 0.064(0) + 0.355(1) + 0.328(16) + 0.689(1) + 0.450(0) + 0.393(0)$$

Therefore, P = .52 = Probability of attending

Figure 2a graphs a portion of the logit curve, using the logit equations reported two-thirds of the way down Table 4 to plot the probability of attendance for the sample individual allowing one of the independent variables--years of formal education--to vary. The specific example calculated at the bottom of Table 4 occurs on the right hand side of Figure 2a at the point where years of education equals 16 and probability of attendance equals 52 percent. Overall, the graph shows the probability of attendance rising dramatically across levels of education to a high of nearly 70 percent, a striking depiction of the importance of education in explaining participation.

Figure 2a: Logit Analysis--Probability of Attendance by Demographic Variables
Graph of Probability of Attendance by Education for Sample Individual

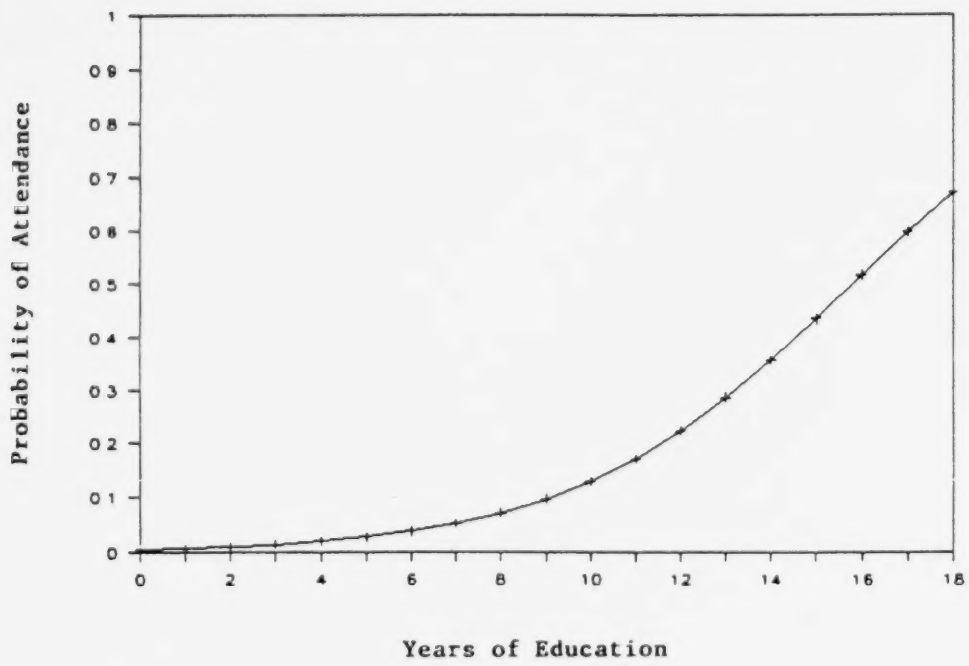
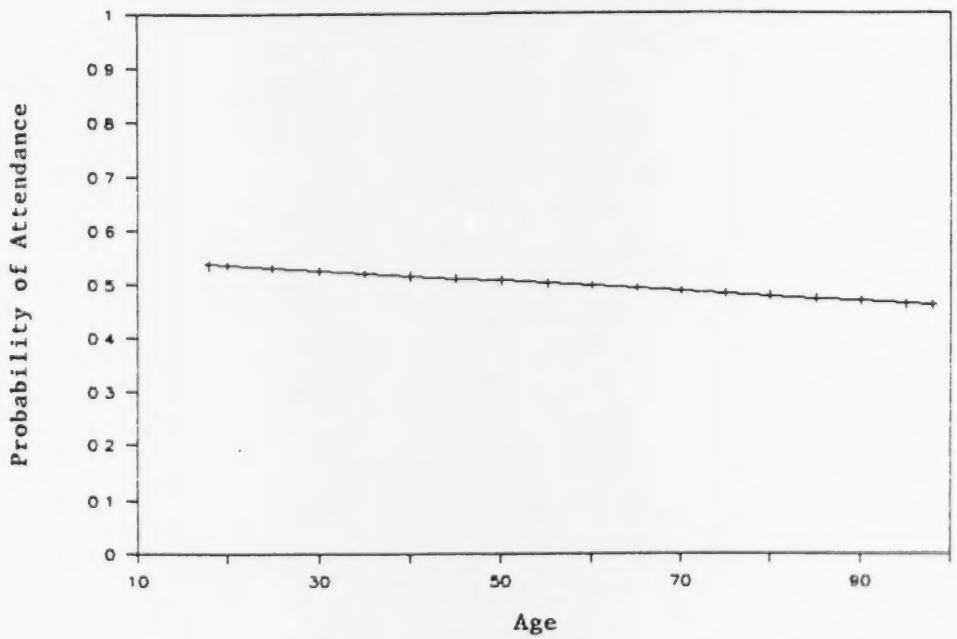


Figure 2b graphs another portion of the logit curve, plotting the probability of attendance for the sample individual allowing another of the independent variables--age--to vary. Interestingly, this graph shows that once the other independent variables have been controlled for the probability of attendance tends to decline slightly as the individual gets older.

Figure 2b: Logit Analysis--Probability of Attendance by Demographic Variables
Graph of Probability of Attendance by Age for Sample Individual



Three advantages of logit analysis are: (1) the contribution of each independent variable to the probability of attendance can be estimated, (2) the probability of attendance for any person can be estimated by inserting the values of the independent variables for that person into the logit equation, and (3) the variables can be tested to see which have a statistically significant effect and which do not, a considerable aid in identifying which variables are the key variables in predicting attendance. I will now explore each of these points with respect to the logit results in Table 4.

There are a number of important things to notice about these results. First, consider the signs of the coefficients. The signs indicate the direction of the relationship between the probability of attendance and an increase in each of the variables. For example, the negative coefficient of age (-0.004) indicates that as an individual gets older, ceteris paribus, his or her probability of attendance goes down. This result can be clearly seen in Figure 2b above. For education, on the other hand, the coefficient is positive (+0.328), indicating that for higher levels of education the probability of attendance is higher, as we have already seen in Figure 2a.

Care must be taken in interpreting the signs of the variables that are dichotomous. For example, the gender variable is coded so that 1 signifies female and 0 signifies male. Therefore, the positive sign of the coefficient in this case indicates that the probability of attendance for women is higher than the probability for men. The multiple income variables all measure differences with respect to the lowest income group ($0-$4,999), so the positive coefficient of INC6, for example, indicates that individuals with incomes higher than $50,000 have a higher probability of attendance than individuals in the lowest income group, but the negative coefficient for INC2 indicates that individuals with incomes between $5,000 and $10,000 have a

somewhat lower probability of participation than individuals in the lowest income group when the effects of the other independent variables are accounted for (though the fact that the coefficient is not statistically significant means that one cannot conclude that the negative relationship that happens to show up in the sample would necessarily hold up for the entire population).

Second, consider the raw value of the coefficients. The coefficient of education is +0.328; this indicates that for every additional year of formal education the log of the odds ratio increases by 0.328. It is this fact which was used in constructing the logit curve in Figure 2a. The coefficient of RACE2 is -0.815 meaning that the log of the odds ratio is .815 lower for blacks than it is for whites.

Third, consider the question of statistical significance. Which variables actually seem to explain changes in the likelihood of attendance and which do not when we control for a number of variables simultaneously? In Table 4, the answer to the question of whether or not each coefficient is statistically significant at the .05 level indicates whether or not, in a statistical sense, it can be concluded that the coefficient is significantly different from zero--the value it would have had if the variable in fact had had no effect no attendance. This step is necessary because we are dealing with sample data but would like to draw conclusions about the population of all American adults from which this sample was drawn. In other words, determining statistical significance is, in essence, asking if the mathematical evidence strong enough to conclude that the coefficient would be positive (or negative) rather than zero if we were able to calculate it for the entire population? The population coefficient would be the true measure of any mathematical relationship, but one can only make inferences about it based on sample data.

In this case, several of the income variables have coefficients that are not significantly different from zero, and therefore one cannot conclude that in the overall population these income groups have probabilities of attendance that are different from the probability in the lowest income group. Similarly, the coefficient of RACE3 is not statistically significant, so one cannot conclude that other racial groups have a probability of attendance that is significantly different from that of whites (the base of comparison). Among the variables that are statistically significant, education, SMSA1, and RACE 2 are highly significant. Note that the size of the coefficient is not correlated with whether or not the coefficient is statistically significant. This is because the coefficient has to reflect the units in which each of the independent variables is measured as well as its contributory effect to the dependent variable.

Fourth, how well does the model do in predicting the log of the odds ratio? One diagnostic for such a model is to take the resulting equation and to use it to predict attendance for each of the cases already included in the dataset. This measures how well the logit model works on the actual data from which it was constructed. Two indices reflect how well the model is predicting with the actual cases:

Specificity = The percentage of actual attenders who were predicted to be attenders by the model = 27%

Sensitivity = The percentage of actual non-attenders who were predicted to be non-attenders by the model = 95%

Thus, this model predicts non-attenders more efficiently than it predicts attenders.

R-Squared is another, more common statistic that helps in interpreting how good the model is. In this case it is equal to .16; 16 percent of the variation in the log of the odds ratio is explained by this group of independent variables. We would like this statistic to be as high as possible

(1.00 would indicate perfect predictive ability), but we should not be too hasty to reject this low number. In social science research it is notoriously difficult to develop highly predictive models because there are so many factors that affect behavior. Rather than being judged on any absolute scale, this statistic should be viewed in the context of progress in explaining museum attendance.

R-Squared may also be artificially low for another reason. Museum attendance is not a high frequency event, and because the survey only asked about attendance in the previous year a smaller percentage of individuals was identified as "attenders" than would have been so identified if the time period had been made more commensurate with the actual average time between visits among the population. In theory, such data might have given a more meaningful measure of the propensity to attend, and the same model would have resulted in a higher R-Squared statistic. On the other hand, such data would have been more questionable because of the increased difficulty respondents would have had in accurately remembering their behavior back over longer periods of time.

Because this monograph is among the first such statistical analyses of museum attendance patterns, I report this statistic as a benchmark against which further studies might be judged. As our ability to explain museum attendance improves, the predictive capability of our models will increase. In Part III of this monograph I report the results of a better logit model that includes variables measuring an individual's socialization into the arts.

COMPARING PARTICIPATION RATES: THE AMERICANS AND THE ARTS STUDIES

Many of the readers of this monograph will be familiar with the Americans and the Arts studies conducted in 1973, 1975, 1980, and 1984 by the National Research Center of the Arts, an affiliate of Louis Harris and Associates. These studies have received quite a bit of visibility within the arts advocacy community, particularly for their dramatic estimates of high levels of attendance at, and support for, artistic activities. How do the Americans and the Arts results compare to results from the Survey of Public Participation in the Arts?

Table 5 presents a comparison of the key participation rates calculated in SPPA '85 and Harris '84. Harris reports an overall participation rate of 58 percent, just slightly more than five adults in nine, two and a half times the SPPA '85 participation rate. Moreover, art museums and the theatre are the two sectors that show the greatest discrepancy between studies: 36 percentage points in the case of museums (58% in Harris '84 versus 22% in SPPA '85) and 37 percentage points for theatre (60% in Harris '84 versus 23% in SPPA '85). For other sectors the discrepancies are smaller. Thus, the problem of comparability between these two studies is particularly acute in studying the museum audience.

When disaggregated by the demographic factors that were included in both studies, all of the art museum participation rates reported by Harris are two to three times the rates in the SPPA '85 data; occasionally they are even higher. What accounts for these large discrepancies?

Table 5: A COMPARISON OF PARTICIPATION RATES: SPPA '85 AND HARRIS '84

SPPA '85 Question: During the last 12 months did you visit an art gallery or an art museum?	Participation Rate	Harris '84 Question: How many times, if any, did you visit art museums that exhibit paintings, drawings, sculpture, etc., during the past 12 months?	Participation Rate
Overall	22%	Overall	58%
Income		Income	
< $5,000	16%	< $7,550	43%
$5,000- $9,999	11%	$7,501-$15,000	53%
$10,000-$14,999	15%	$15,001-$25,000	58%
$15,000-$24,999	19%	$25,001-$35,000	62%
$25,000-$49,999	28%	$35,001-$50,000	67%
> $50,000	45%	> $50,001	76%
Education		Education	
Grade School	4%	Eighth Grade	27%
Some High School	11%		
High School Grad	14%	High School Grad	46%
Some College	29%	Some College	70%
4 Yr College Grad	45%	College Grad	78%
Graduate School	55%		
Age		Age	
18-24 years	22%	18-29 years	66%
25-34 years	25%		
35-44 years	27%	30-49 years	62%
45-54 years	23%		
55-64 years	18%	50-64 years	53%
65-74 years	16%	65+ years	46%
75+ years	10%		
Gender		Gender	
Females	23%	Females	57%
Males	21%	Males	60%
Race		Race	
Black	11%	Black	50%
White	23%	White	59%
Other	25%	Hispanic	64%
Urbanization		Size of Place	
SMSA Central City	25%	Cities	66%
SMSA not Central City	26%	Suburbs	58%
Outside SMSA	14%	Town/Rural	49%

Sources: "Survey of Public Participation in the Arts," 1985.

National Research Center of the Arts, Americans and the Arts, 1984.

Robinson, et al., have made a careful comparison of the SPPA '82 results (which, in the museum case, are very similar to the SPPA '85 results) with the Harris '84 figures.(14) They point to several factors, each of which helps to explain part of the difference:

- The placement and wording of the questions, in the Harris survey in particular, may tempt respondents into giving artificially high responses so they will not appear to be "uncultured." (The arts research community has generally been critical of Harris for producing advocacy documents pretending to be "objective research." This applies not only to the questions asked, but also to which calculations are made, which results are chosen to be presented, and how they are presented.)

- In presenting aggregate figures, Harris '84 underweights the lowest educational groups in proportion to their true weight in the population. Yet, when the two studies' participation rates are compared for each separate educational level (see Table 5), the discrepancies are very large at each level (27% v. 4% at the lowest reported levels).

- Harris' use of telephone interviews with quota sampling and a lower response rate than the Bureau of the Census achieved in SPPA '85 combine to suggest that there may have been selection biases that led to respondents who were simply more likely to be attenders than a random cross-section of the population.

From a technical standpoint the SPPA studies are considerably more defensible, and, thus, their results are to be taken more seriously. Moreover, it would be a mistake to focus too much on technique and lose sight of common sense. Before the Americans and the Arts series began, the art museum world dared not hope that it would one day discover that it was already reaching a substantial proportion of the adult population each year. When Harris suggested this possibility and then repeated it four times--the participation rates for art museums were 48 percent in the 1973 study, 43 percent in 1975, 60 percent in 1980, and 58 percent in 1984(15)--the results were first treated with gratified astonishment and then gradually were incorporated into the established canon of arts policy "knowledge." The SPPA

data indicate that perhaps the initial skepticism informed by common sense had a lot more truth in it than what we eventually came to believe. 58 percent is just too high.

While common sense is not always the best indicator of the validity of research findings, it certainly helps in suggesting the questions that ought to be asked before completely revising long-held views. At the same time, it would be a mistake to become overly reliant on common sense. Dimmagio, Useem and Brown point out that arts managers can become overreliant on their own intuition concerning their clientele; they cite a study of the public for the Royal Ontario Museum in which Abbey and Cameron asked the museum staff to estimate the education and income levels of their visitors while they were simultaneously collecting this information from the visitors themselves. The discrepancies between the staff's estimates and the actual demographics of the audience were, in many instances, very large.(16)

COMPARING PARTICIPATION RATES: AN INTERNATIONAL PERSPECTIVE

To what extent are participation rates a reflection of the culture of the country in which they are being measured? Americans seem to have the view that attendance at artistic events is much more ingrained in other countries, particularly in Western Europe, than it is in the United States. How do art museum participation rates among the American public compare to the corresponding rates in other countries?

Cross-national comparison in arts policy is particularly plagued by the wide variation in definitions and approaches across countries and across cultures.(17) Yet, the variation in what is considered to be an art museum or an art gallery is much smaller than similar variation might be within other artistic sectors. Even so, one must be very careful to account for important differences in surveying procedures and variation in the definition of the key demographic categories.

Table 6 compares participation rates from audience studies in Great Britain, France, Sweden, and the Canadian province of Quebec with similar results from SPPA '85.(18) The most striking thing about this comparison is, with the notable exception of Sweden, how similar the overall participation rates are: in the United States, 22 percent for art museums and art galleries; in Great Britain, 29 percent for all museums and 19 percent for art exhibitions; in France, 30 percent for all museums (net of historic monuments) and 21 percent for temporary art exhibitions; and in Quebec, 23 percent for art museums and 17 percent for other museums. In Sweden, on the other hand, the participation rate is 31 percent. All of these participation rates were measured with respect to attendance in the preceeding twelve months. In most cases where the participation rate is somewhat higher it appears that that difference can be attributed to inclusion of a broader range of museums.

Table 6: A CROSS-NATIONAL COMPARISON OF PARTICIPATION RATES: THE UNITED STATES AND GREAT BRITAIN

United States SPPA '85		Great Britain MORI '81		
Question: During the last 12 months did you visit an art gallery or an art museum?		Question: On another subject, which of these have you personally been to in the past 12 months?		
		Museums	Art Exhibitions	
	Participation Rate	Participation Rate	Participation Rate	
Overall	22%	29%	19%	Overall
Age				**Age**
18-24 years	22%	21%	17%	18-24 years
25-34 years	25%	34%	17%	25-34 years
35-44 years	27%	35%	21%	35-49 years
45-54 years	23%			
55-64 years	18%	29%	20%	50-64 years
65-74 years	16%	20%	18%	65+ years
75+ years	10%			
Gender				**Gender**
Females	23%	27%	18%	Females
Males	21%	31%	20%	Males
Occupation				**Class**
Professional	49%	44%	37%	Upper Middle (Professional or Managerial)
Managerial	37%			
Sales/Clerical	27%	39%	27%	Lower Middle (Clerical, Nonprofessional Supervisory)
Craftsman	14%			
Operatives	9%			
Laborers	10%	27%	15%	Skilled Manual
Service Workers	16%	19%	9%	Semiskilled and Unskilled Manual
Subregion				**Region**
New England	25%	16%	12%	Scotland
Mid Atlantic	19%	27%	14%	North
East Northcentral	20%	30%	19%	Wales and Midlands
West Northcentral	22%	32%	20%	South
South Atlantic	19%	34%	28%	Southeast
East Southcentral	10%			
West Southcentral	23%			
Mountain	28%			
Pacific	32%			

Sources: "Survey of Public Participation in the Arts," 1985.
Market and Opinion Research International, survey conducted for BBC "Panorama," 26 November 1981.

Note: MORI survey was a quota sample of 973 adults age 18+ interviewed at 51 points throughout Great Britain. Class is of household head.

Table 6: A CROSS-NATIONAL COMPARISON OF PARTICIPATION RATES: FRANCE

France
Pratiques Culturelles des Francais '81

Questions:	Since December '80, have you visited a museum?	Since December '80, have you visited a temporary exhibition of painting or sculpture?
	Participation Rate	Participation Rate
Overall	30%	21%
Education		
No Diploma	14%	7%
Elementary School Grad	21%	10%
Certificate	34%	25%
Bachelor's Degree or more	57%	49%
Age		
15-19 years	40%	26%
20-24 years	38%	27%
25-39 years	34%	29%
40-59 years	28%	18%
60-69 years	27%	15%
70+ years	14%	9%
Gender		
Females	30%	22%
Males	30%	21%
Socio-Professional Category		
Agriculture	17%	8%
Small Merchants/Artisans	32%	26%
Wholesale and Industrial	49%	33%
Professional and Managerial	61%	53%
Middle Class	53%	40%
Clerical	32%	28%
Foremen	24%	18%
Laborer or Service Worker	20%	13%
Urbanization		
Rural	20%	13%
< 20,000 residents	26%	19%
20,000-100,000 residents	28%	21%
> 100,000 residents	33%	23%
Paris	56%	50%
Paris Region	47%	36%

Source: Pratiques Culturelles des Francais, survey conducted by ARCmc for the French Ministry of Culture (Paris: Dalloz, 1982).

Note: Stratified quota sample of 3,984 individuals age 15 or over.

Table 6: A CROSS-NATIONAL COMPARISON OF PARTICIPATION RATES: SWEDEN

Sweden
Kulturstatistik

Percentage of the Population Age 16-74 Years that Visited a Museum in the Previous 12 Months (1982/83)

	Art Exhibitions and Art Galleries	Museums and Exhibitions (Other than Art)
	Participation Rate	Participation Rate
Overall	31%	45%
Education		
Pre-Secondary	20%	32%
Secondary	31%	46%
Post-Secondary	61%	74%
Age		
16-24 years	25%	51%
25-44 years	32%	51%
45-64 years	35%	41%
65-74 years	29%	29%
Gender		
Females	34%	45%
Males	28%	45%
Socio-Economic Group		
All Workers	19%	34%
Unskilled and Semi-Skilled Workers	19%	33%
Skilled Workers	20%	38%
All Salaried Employees	48%	59%
Junior Salaried Employees	38%	47%
Intermediate Level Salaried Employees	49%	62%
Senior Salaried Employees	65%	75%
All Entrepreneurs	29%	37%
Entrepreneurs Without Employees	32%	41%
Entrepreneurs With Employees	40%	47%
Farmers	17%	27%
Regions		
Stockholm	41%	56%
Goteborg and Malmo	35%	53%
Other Large Cities and Towns	30%	44%
Other Southern and Central Sweden	26%	37%
Northern Densely Populated Areas	31%	45%
Northern Sparsely Populated Areas	21%	30%

Source: Statistics Sweden, "Level of Living Survey 1982/83," as reported in Official Statistics of Sweden, Cultural Statistics: Activities, Economy and Cultural Habits 1980-1984 (Stockholm: Statistics Sweden, 1987), p. 340.

Table 6: A CROSS-NATIONAL COMPARISON OF PARTICIPATION RATES: QUEBEC

Quebec
CROP '83

Percentage of the Population Having Visited a Museum at Least Once in 1983

	Art Museum	Other Museums
	Participation Rate	Participation Rate
Overall	23%	17%
Education		
0- 7 years	10%	7%
8-11 years	17%	14%
12-15 years	28%	20%
16+ years	48%	29%
Income (Canadian $)		
<$10,000	13%	6%
$10,000-$19,999	24%	16%
$20,000-$29,999	25%	17%
>$30,000	34%	25%
Age		
15-17 years	26%	36%
18-24 years	23%	18%
25-34 years	27%	16%
35-44 years	29%	22%
45-54 years	22%	15%
55+ years	18%	10%
Gender		
Females	24%	16%
Males	23%	18%

Source: Ministere des Affaires Culturelles du Quebec, Chiffres a L'Appui, Bulletin du Service de la Recherche et de la Planification, Vol. 2, No. 2, May 1984, summary of a public opinion poll conducted by the Centre de Recherche sur l'Opinion Publique (CROP) in 1983.

Note: Sample of 2,316 individuals age 15 or over.

Two later studies done in Great Britain by MORI indicate slightly different participation rates. A January 1985 survey of 2,057 adults asked, "Which of the things on this list have you done in the past two or three years?": Visited a local museum (33%), Visited a major national museum (23%),

Visited an art gallery (23%). Both the vagueness and the length of the time period in question serve to raise the participation rate in comparison to the annual ones discussed above, but these participation rates are not different enough to revise the sense that annual participation rates are in the low 20s.(19) A March 1985 MORI study on "Public Attitudes to Arts Funding," which was very similar to the 1981 study summarized in Table 6, reported declines in the participation rates for museums and art exhibitions to 25 percent and 16 percent, respectively.(20)

Anecdotal evidence suggests that the participation rate in the Netherlands is of the same order of magnitude: "21% of the population occasionally visit an art museum, gallery or exhibition."(21)

The similarities across the American, British, French, and Canadian studies are not limited to overall participation rates. When disaggregated over various demographic variables, the participation rates remain remarkably similar across the three studies, particularly when differences as to which museums are being considered are taken into account.

In many respects the French study resembles the SPPA surveys; it was commissioned to document the participation of the French population in a wide variety of leisure and artistic activities. The MORI survey, on the other hand, is more akin to the Harris surveys, concerning itself with public attitudes towards public funding of the arts and correlating those opinions with participation rates and demographic factors. Because of this emphasis, MORI includes several variables which are not available in other studies indicating, perhaps, the relative politicization of arts policy questions in Great Britain: trade union membership, voting intention by political party, support for or opposition to public funding of various art forms, and whether or not the respondent had heard of the Arts Council of Great Britain.(22)

It is worth noting that both the British (MORI) survey and the French survey separated attendance at "art exhibitions" or "temporary exhibitions of painting or sculpture" from more general attendance at museums. In order to understand the stable, core audience for art museums it would be necessary to identify and separate out those individuals who only attended because of a particular exhibition, perhaps a well-advertised "blockbuster" show, and do not normally consider themselves part of the museum's audience, but the SPPA '85 data do not allow this distinction to be made.

While far from conclusive, these reports when taken together suggest that across most western countries museums may well be serving similar segments of their national populations. Art galleries, art exhibitions, and art museums speak more readily to certain individuals than to others and, indeed, are the institutional creation of certain social groups. In large part this receptivity seems to be a function of the same demographic factors. The extensive Swedish social welfare state and greater citizen involvement in communal activity may well explain the higher participation rates in Sweden.

But this comparison does not speak to relative frequency of attendance. It is certainly possible that while the cross-section of the population being served is quite similar across countries, the frequency of attendance might be rather different in those places where "museum going" has become more a part of daily life. The limited data that are available on this question suggest that it is not the case that frequency of attendance is higher in these other countries. The French study reports a mean of 3.1 visits per visitor to museums and a mean of 3.2 visits per visitor to temporary art exhibitions.(23) The Quebec study reports a mean of 2.11 visits per visitor to art museums.(24) The SPPA '85 data yield a mean of 3.42 visits per visitor to art museums (a result that I discuss further in Part IV). Neither the British nor the Swedish studies report any data on frequency of attendance.

PART II: UNSATISFIED DEMAND AND BARRIERS TO ATTENDANCE

If two adults out of nine attended an art museum or an art gallery in the previous year, there are seven who did not. Who are the individuals who do not attend museums? Why? Who would like to attend more? Who are the potential members of the museum audience? The answers to these questions are of concern both to museums who would like to more effectively market their services and to funding agencies who would like to expand the reach of arts organizations into previously unserved or underserved segments of the community.

UNSATISFIED DEMAND

Tables 7a and 7b summarize the responses of those adults who said they would like to attend art museums more often. But first two cautions in their use. Data of this sort have to be approached with a degree of skepticism because respondents' answers are based on hypothetical situations rather than on actual behavior. It is easier to say you would like to go more often than to actually exert the effort to go. And if you could go, you would; but you can't go, so you won't.

The second caution is the complement to one mentioned earlier in this monograph. These tables begin the analysis of unsatisfied demand by looking at various demographic variables, but we must be wary about jumping to conclusions about the causal relationships between these demographic variables and unsatisfied demand or non-attendance. By restricting our attention to demographic variables only, they become the only possible explanations for unsatisfied demand or non-attendance that are readily available. We run the risk once again of concluding that survey respondents are prisoner to their demographics.

Table 7a: EXPRESSED UNSATISFIED DEMAND FOR ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985: PERCENTAGES

Question: Few people can do everything they would like to do. But if you could do any of the things listed on this card as often as you wanted, which ones would you do more often than you have during the last 12 months?

		Percentage Who Checked Museums
	Overall	
Of all	Adults,	31% would like to go more
	Attendance	
Of all adults who were	Attenders,	58% would like to go more
	Non-Attenders,	23% would like to go more
	Income	
Of adults whose family income was	< $5,000,	25% would like to go more
	$5,000- $9,999,	25% would like to go more
	$10,000-$14,999,	27% would like to go more
	$15,000-$24,999,	29% would like to go more
	$25,000-$49,999,	36% would like to go more
	> $50,000,	45% would like to go more
	Education	
Of adults whose highest education	level was	
	Grade School,	12% would like to go more
	Some High School,	22% would like to go more
	High School Grad,	29% would like to go more
	Some College,	38% would like to go more
	4 Yr College Grad,	44% would like to go more
	Graduate School,	44% would like to go more
	Age	
Of adults whose age was	18-24 years,	34% would like to go more
	25-34 years,	35% would like to go more
	35-44 years,	35% would like to go more
	45-54 years,	27% would like to go more
	55-64 years,	28% would like to go more
	65-74 years,	26% would like to go more
	75+ years,	17% would like to go more
	Gender	
Of adult	Females,	33% would like to go more
	Males,	28% would like to go more
	Race	
Of adults whose race is	Black,	25% would like to go more
	White,	32% would like to go more
	Other,	18% would like to go more

Source: "Survey of Public Participation in the Arts," 1985.

Table 7b: EXPRESSED UNSATISFIED DEMAND FOR ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985: NUMBER PER 1,000 ADULTS

Question: Few people can do everything they would like to do. But if you could do any of the things listed on this card as often as you wanted, which ones would you do more often than you have during the last 12 months?

		Number Per 1,000 Who Checked Museums
	Overall	
Of every 1,000	Adults,	307 would like to go more
	Attendance	
Of the 219 who were	Attenders,	128 would like to go more
Of the 781 who were	Non-Attenders,	179 would like to go more
	Income	
Of the 82 whose family income was	< $5,000,	21 would like to go more
Of the 126 whose family income was	$5,000- $9,999,	31 would like to go more
Of the 143 whose family income was	$10,000-$14,999,	39 would like to go more
Of the 247 whose family income was	$15,000-$24,999,	72 would like to go more
Of the 308 whose family income was	$25,000-$49,999,	111 would like to go more
Of the 94 whose family income was	> $50,000,	42 would like to go more
	Education	
Of the 110 whose highest level was	Grade School,	13 would like to go more
Of the 118 whose highest level was	Some High School,	26 would like to go more
Of the 376 whose highest level was	High School Grad,	108 would like to go more
Of the 203 whose highest level was	Some College,	77 would like to go more
Of the 110 whose highest level was	4 Yr College Grad,	48 would like to go more
Of the 82 whose highest level was	Graduate School,	36 would like to go more
	Age	
Of the 161 whose age was	18-24 years,	55 would like to go more
Of the 238 whose age was	25-34 years,	82 would like to go more
Of the 182 whose age was	35-44 years,	63 would like to go more
Of the 132 whose age was	45-54 years,	36 would like to go more
Of the 130 whose age was	55-64 years,	36 would like to go more
Of the 97 whose age was	65-74 years,	25 would like to go more
Of the 59 whose age was	75+ years,	10 would like to go more
	Gender	
Of the 528	Females,	173 would like to go more
Of the 472	Males,	134 would like to go more
	Race	
Of the 108 whose race is	Black,	27 would like to go more
Of the 873 whose race is	White,	277 would like to go more
Of the 19 whose race is	Other,	3 would like to go more

Source: "Survey of Public Participation in the Arts," 1985.

Note: For each variable the number of people per 1,000 adults who would like to go more does not add up to the overall total of 307 either because of rounding errors or because of missing values that affect the estimation.

Looking at Table 7a, nearly a third of American adults would like to attend art museums more often, yet those who are already attenders are more likely to indicate they would like to go more often than are non-attenders. 58 percent, more than half, of individuals who are already attenders would like to go more often, while only 23 percent of non-attenders would like to. (Interestingly, this percentage remains quite high across participation levels: of those individuals who indicated that they had attended an art museum 2-3 times in the previous month, 62 percent indicated that they would like to go more during a year; of those who attended six or more times in the previous month, 52 percent indicated they would like to attend more.) Yet, because of the large number of non-attenders in the adult population, nearly 60 percent of those who would like to go more often are currently not attending. The problem for a museum is that these individuals are considerably more difficult to identify than those who are already attenders.

Unsatisfied demand rises over both income and education levels to a high of four adults out of nine. By income, over a third of the individuals with unsatisfied demand can be found in the $25,000-$49,999 income group; by education, over a third can be found among those whose highest level was graduation from high school. Over age, unsatisfied demand remains roughly constant at 35 percent for individuals age 16-44, but then begins to decline.

While there are clear links between unsatisfied demand and the various demographic variables when taken one at a time, which ones turn out to be most important when their effects are controlled for simultaneously? For this analysis I use a logit model that is identical to the one described in Part I of this monograph except for the fact that this time the dependent variable is a dummy variable indicating whether or not the respondent indicated a desire to attend art museums more often.

Table 8 summarizes the results of this logit model.

Table 8: LOGIT RESULTS: PREDICTING UNSATISFIED DEMAND

Variable		Coefficient	Significant at .05 Level?
Intercept		-2.834	
INC2	= 1 if $4,999 < income < $10,000 = 0 otherwise	+0.107	No
INC3	= 1 if $9,999 < income < $15,000 = 0 otherwise	+0.135	No
INC4	= 1 if $14,999 < income < $25,000 = 0 otherwise	+0.105	No
INC5	= 1 if $24,999 < income < $50,000 = 0 otherwise	+0.289	Yes
INC6	= 1 if $49,999 < income = 0 otherwise	+0.312	No
AGE	= age in years	-0.007	Yes
RACE2	= 1 if individual is black = 0 otherwise	-0.339	Yes
RACE3	= 1 if individual is "other" = 0 otherwise	-0.749	Yes
GEND	= 1 if female = 0 if male	+0.315	Yes
EDU	= number of years of formal education	+0.147	Yes
SMSA1	= 1 if in central city of an SMSA = 0 otherwise	+0.314	Yes
SMSA2	= 1 if in SMSA but not in central city = 0 otherwise	+0.218	Yes
STU1	= 1 if currently a student	+0.290	No

R-Squared = .05

Logit Equations: P = Probability of unsatisfied demand for a particular individual.

Natural logarithm (P/1-P) = - 2.834 + 0.107(INC2) + 0.135(INC3) + 0.105(INC4)
+ 0.289(INC5) + 0.312(INC6) - 0.007(AGE)
- 0.339(RACE2) - 0.749(RACE3) + 0.315(GEND)
+ 0.147(EDU) + 0.314(SMSA1) + 0.218(SMSA2)
+ 0.290(STU1)

Example: White female, 40 years old, 16 years of formal education (college graduate), lives in the central city of an SMSA, not currently a student, with an income $15,000-$24,999.

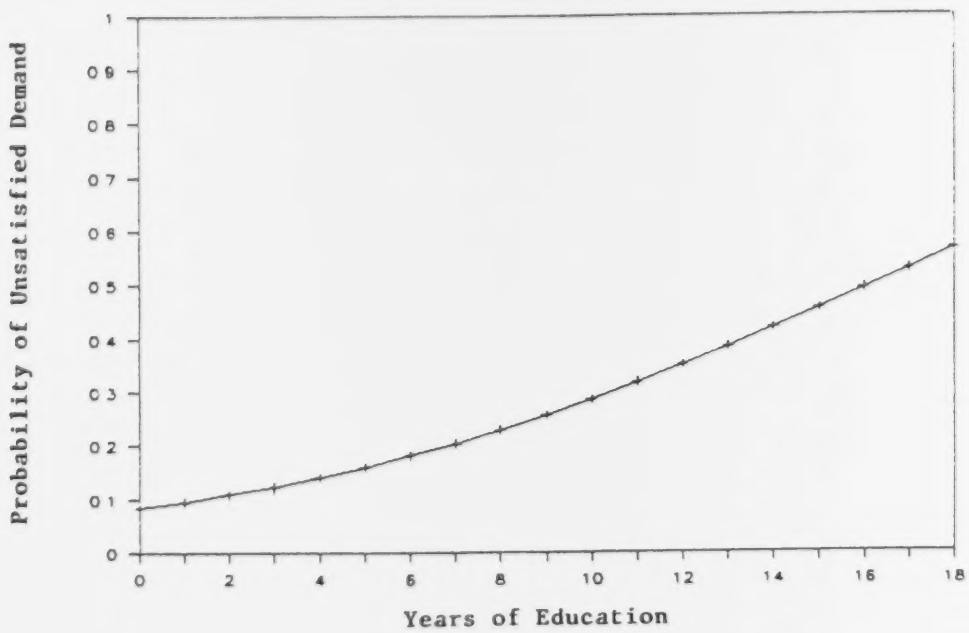
Natural logarithm (P/1-P) = - 2.834 + 0.107(0) + 0.135(0) + 0.105(1)
+ 0.289(0) + 0.312(0) - 0.007(40)
- 0.339(0) - 0.749(0) + 0.315(1)
+ 0.147(16) + 0.314(1) + 0.218(0)
+ 0.290(0)

Therefore, P = .49 = Probability of having unsatisfied demand

Once again, when all the demographic variables are entered into the model simultaneously, education emerges as the most important predictor, though this time a predictor of unsatisfied demand. It is the variable with the highest level of statistical significance. The probability of unsatisfied demand rises with number of years of education and is generally higher at higher levels of income (except for the $15,000-$24,999 category). The probability of unsatisfied demand decreases gradually with age. Women are more likely to have unsatisfied demand than men; whites are more likely to have unsatisfied demand than blacks or other racial groups; students are more likely than non-students; and the probability of having unsatisfied demand rises with increased urbanization.

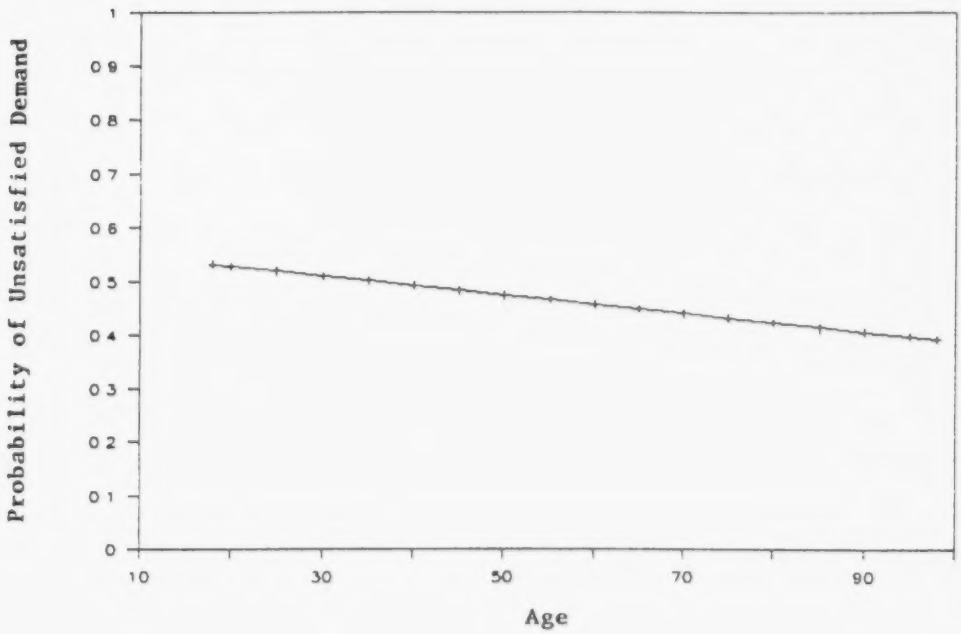
Continuing the example begun earlier in this monograph, Figure 3a graphs the logit equation for the sample individual, plotting the probability of unsatisfied demand against years of education.

Figure 3a: Logit Analysis--Probability of Unsatisfied Demand by Demographic Variables
Graph of Probability of Unsatisfied Demand by Education for Sample Individual



Similarly, Figure 3b graphs the logit equation for the sample individual, plotting the probability of unsatisfied demand against age.

Figure 3b: Logit Analysis--Probability of Unsatisfied Demand by Demographic Variables
Graph of Probability of Unsatisfied Demand by Age for Sample Individual



These results are generally consistent with those reported elsewhere in this monograph, but once again, while the model does help in identifying those variables that are most highly significant in a statistical sense, the overall performance of the model is very weak. In this case the model only explains 5 percent of the variation in the natural log of the odds ratio, a very low predictive capability. And again, the model does substantially better at predicting individuals with no unsatisfied demand than it does in predicting individuals with unsatisfied demand. (The specificity of the model is a high 96 percent, but the sensitivity is very low: 10 percent.) Another way of stating this result is that although there are statistically detectable

relationships between the demographic variables and unsatisfied demand, there is a lot more variation in unsatisfied demand that cannot be accounted for by these demographic variables. Together they suggest the beginning of an explanation, but they are far from being determinant.

BARRIERS TO ATTENDANCE

How are we to understand these percentages? Do these answers simply reflect a general view among the population that museums are worthy things to attend and that more attendance would be preferable to less? Or is attendance actually constrained by other factors, which, if they were removed, would result in increased attendance? This would be particularly interesting to museum management if the key binding constraints turned out to be ones that could be manipulated and changed by the museums themselves.

During one of the six months of the SPPA '85 survey, respondents were asked about their reasons for not attending more often. The survey questionnaire offered the interviewers fifteen specific reasons according to which they coded the oral responses; they could check more than one if several factors seemed of importance. The results are summarized in Tables 9a and 9b.

There are several interesting results to notice in these tables, but first it is important to realize that few of the barriers to attendance included in SPPA '85 are barriers that are within the direct control of the museums themselves. This is not to say that there are not significant barriers to attendance that are erected by museums, only that these cannot be documented within the confines of the SPPA surveys. When considering these results from the point of view of a museum that is trying to decide how to attract new and increased audiences, it is important to remember this point.

Overall, few of these barriers seem to be critical barriers to attendance. A very small percentage of the adult population cites each one (with the exception of the vague reasons "not enough time" and "lack of motivation.") Yet, 31 percent of the adult population cited one or more of these reasons for non-attendance. Many people have reasons for not attending more, but those reasons, according to these data, are diffuse.

Table 9a: EXPRESSED BARRIERS TO ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985: PERCENTAGES

Question: What are the reasons you did not attend art galleries/art museums more often? Any other reason?

	Tickets sold out
Of all Adults,	0.1% cited this barrier to attendance
Of all adults who were Attenders,	0.4%
Of all adults who were Non-Attenders,	0.0%
	Cost
Of all Adults,	4.0% cited this barrier to attendance
Of all adults who were Attenders,	5.7%
Of all adults who were Non-Attenders,	3.5%
	Not available
Of all Adults,	6.4% cited this barrier to attendance
Of all adults who were Attenders,	11.4%
Of all adults who were Non-Attenders,	4.9%
	Too far to go
Of all Adults,	6.7% cited this barrier to attendance
Of all adults who were Attenders,	13.9%
Of all adults who were Non-Attenders,	4.6%
	Transportation/Traffic/Parking problem
Of all Adults,	2.7% cited this barrier to attendance
Of all adults who were Attenders,	3.7%
Of all adults who were Non-Attenders,	2.5%
	Crime or fear of crime
Of all Adults,	0.6% cited this barrier to attendance
Of all adults who were Attenders,	0.6%
Of all adults who were Non-Attenders,	0.6%
	Feel uncomfortable
Of all Adults,	0.1% cited this barrier to attendance
Of all adults who were Attenders,	0.1%
Of all adults who were Non-Attenders,	0.1%
	Poor quality/Not very good, etc.
Of all Adults,	0.4% cited this barrier to attendance
Of all adults who were Attenders,	0.9%
Of all adults who were Non-Attenders,	0.3%
	Don't have anyone to go with
Of all Adults,	1.6% cited this barrier to attendance
Of all adults who were Attenders,	2.2%
Of all adults who were Non-Attenders,	1.4%
	Problem related to a handicap
Of all Adults,	0.4% cited this barrier to attendance
Of all adults who were Attenders,	0.5%
Of all adults who were Non-Attenders,	0.3%

Table 9a: EXPRESSED BARRIERS TO ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985: PERCENTAGES (continued)

	Problem related to age/health
Of all Adults,	0.7% cited this barrier to attendance
Of all adults who were Attenders,	1.2%
Of all adults who were Non-Attenders,	0.6%

	Babysitter problems/ Must care for children
Of all Adults,	1.7% cited this barrier to attendance
Of all adults who were Attenders,	3.5%
Of all adults who were Non-Attenders,	1.2%

	Prefer to watch TV
Of all Adults,	0.9% cited this barrier to attendance
Of all adults who were Attenders,	0.2%
Of all adults who were Non-Attenders,	1.1%

	Don't have time
Of all Adults,	13.7% cited this barrier to attendance
Of all adults who were Attenders,	27.9%
Of all adults who were Non-Attenders,	9.7%

	Procrastination/Lack of motivation
Of all Adults,	4.0% cited this barrier to attendance
Of all adults who were Attenders,	8.2%
Of all adults who were Non-Attenders,	2.7%

Source: "Survey of Public Participation in the Arts," 1985.

Table 9b: EXPRESSED BARRIERS TO ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985: NUMBER PER 1,000 ADULTS

Question: What are the reasons you did not attend art galleries/art museums more often? Any other reason?

	Tickets sold out
Of every 1,000 Adults,	1 cited this barrier to attendance
Of the 219 who were Attenders,	1
Of the 781 who were Non-Attenders,	0
	Cost
Of every 1,000 Adults,	40 cited this barrier to attendance
Of the 219 who were Attenders,	13
Of the 781 who were Non-Attenders,	27
	Not available
Of every 1,000 Adults,	64 cited this barrier to attendance
Of the 219 who were Attenders,	25
Of the 781 who were Non-Attenders,	39
	Too far to go
Of every 1,000 Adults,	67 cited this barrier to attendance
Of the 219 who were Attenders,	30
Of the 781 who were Non-Attenders,	36
	Transportation/Traffic/Parking problem
Of every 1,000 Adults,	27 cited this barrier to attendance
Of the 219 who were Attenders,	8
Of the 781 who were Non-Attenders,	19
	Crime or fear of crime
Of every 1,000 Adults,	6 cited this barrier to attendance
Of the 219 who were Attenders,	1
Of the 781 who were Non-Attenders,	5
	Feel uncomfortable
Of every 1,000 Adults,	1 cited this barrier to attendance
Of the 219 who were Attenders,	*
Of the 781 who were Non-Attenders,	1
	Poor quality/Not very good, etc.
Of every 1,000 Adults,	4 cited this barrier to attendance
Of the 219 who were Attenders,	2
Of the 781 who were Non-Attenders,	2
	Don't have anyone to go with
Of every 1,000 Adults,	16 cited this barrier to attendance
Of the 219 who were Attenders,	5
Of the 781 who were Non-Attenders,	11
	Problem related to a handicap
Of every 1,000 Adults,	4 cited this barrier to attendance
Of the 219 who were Attenders,	1
Of the 781 who were Non-Attenders,	3

Table 9b: EXPRESSED BARRIERS TO ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985: NUMBER PER 1,000 ADULTS (continued)

	Problem related to age/health
Of every 1,000 Adults,	7 cited this barrier to attendance
Of the 219 who were Attenders,	3
Of the 781 who were Non-Attenders,	5

	Babysitter problems/ Must care for children
Of every 1,000 Adults,	17 cited this barrier to attendance
Of the 219 who were Attenders,	8
Of the 781 who were Non-Attenders,	9

	Prefer to watch TV
Of every 1,000 Adults,	9 cited this barrier to attendance
Of the 219 who were Attenders,	*
Of the 781 who were Non-Attenders,	9

	Don't have time
Of every 1,000 Adults,	137 cited this barrier to attendance
Of the 219 who were Attenders,	61
Of the 781 who were Non-Attenders,	75

	Procrastination/Lack of motivation
Of every 1,000 Adults,	40 cited this barrier to attendance
Of the 219 who were Attenders,	18
Of the 781 who were Non-Attenders,	21

Source: "Survey of Public Participation in the Arts," 1985.

Notes: For each barrier to attendance, the number of attenders plus the number of non-attenders who cited the barrier do not necessarily add up to the total number of adults who cited it because of rounding errors.

* Less than one person per thousand.

A second overall pattern to notice in these data is that for every barrier except "prefer to watch TV" the percentage of attenders that cites each barrier is greater than or equal to the percentage of non-attenders. This further reinforces the earlier finding that unsatisfied demand is greater among those who are already attenders.

Some of the individual findings deserve more attention. The most frequently cited barrier is not having enough time; 13.7 percent of the population gave this answer, 27.9 percent of attenders. One barrier that might have been expected to have been selected more often is "feeling uncomfortable"--it is often suggested that arts institutions make it very difficult for the uninitiated to feel that the institution is accessible to them. Yet, only one-tenth of one percent of the population felt that their uncomfortableness in museums was keeping them away. (Interestingly, low percentages like this are found across all of the art forms included in SPPA.) In between, a moderate percentage of individuals cites lack of availability or too far to go as reasons for lower attendance. While it seems that this may be able to be attributed to the geographic distribution pattern of museums, without further data on the distribution of respondents as compared to the distribution of museums we cannot be sure; and it is possible that these answers were also used by respondents to express an inaccessibility that was part psychological as well as geographical.

To better target potential museum audiences it will help to take this analysis one step further and ask, "Of those with unsatisfied demand, what percentage cites each of these barriers?" Table 10a and 10b summarize a reduced list of barriers for individuals who expressed that they would like to attend art museums more often. Both uncomfortableness and lack of quality remain unimportant barriers to participation; but cost, availability, distance, and lack of time are all of significantly higher importance among

those who also expressed that they would like to be able to attend or to attend more frequently. The responses to the last barrier, lack of motivation, are more difficult to interpret; there is a paradox in the fact that 12-13 percent of those who expressed a desire for more attendance cite lack of motivation as a barrier to attendance.(25)

Table 10a: BARRIERS TO ATTENDANCE AND UNSATISFIED DEMAND, 1985: PERCENTAGES

Question: What are the reasons you did not attend art galleries/art museums more often? Any other reason?

	Cost
Of all adults with unsatisfied demand,	12.8% cited this barrier to attendance
Of all adults with unsatisfied demand who were Attenders,	9.5%
Of all adults with unsatisfied demand who were Non-Attenders,	15.2%
	Not available
Of all adults with unsatisfied demand,	20.3% cited this barrier to attendance
Of all adults with unsatisfied demand who were Attenders,	18.6%
Of all adults with unsatisfied demand who were Non-Attenders,	21.5%
	Too far to go
Of all adults with unsatisfied demand,	21.5% cited this barrier to attendance
Of all adults with unsatisfied demand who were Attenders,	23.5%
Of all adults with unsatisfied demand who were Non-Attenders,	20.1%
	Feel uncomfortable
Of all adults with unsatisfied demand,	0.4% cited this barrier to attendance
Of all adults with unsatisfied demand who were Attenders,	0.2%
Of all adults with unsatisfied demand who were Non-Attenders,	0.5%
	Poor quality/Not very good, etc.
Of all adults with unsatisfied demand,	1.2% cited this barrier to attendance
Of all adults with unsatisfied demand who were Attenders,	1.2%
Of all adults with unsatisfied demand who were Non-Attenders,	1.2%
	Don't have time
Of all adults with unsatisfied demand,	44.3% cited this barrier to attendance
Of all adults with unsatisfied demand who were Attenders,	47.6%
Of all adults with unsatisfied demand who were Non-Attenders,	42.0%
	Procrastination/Lack of motivation
Of all adults with unsatisfied demand,	12.8% cited this barrier to attendance
Of all adults with unsatisfied demand who were Attenders,	13.8%
Of all adults with unsatisfied demand who were Non-Attenders,	12.0%

Source: "Survey of Public Participation in the Arts," 1985.

Table 10b: BARRIERS TO ATTENDANCE AND UNSATISFIED DEMAND, 1985: NUMBER PER 1,000 ADULTS

Question: What are the reasons you did not attend art galleries/art museums more often? Any other reason?

	Cost
Of the 307 with unsatisfied demand,	39 cited this barrier to attendance
Of the 129 with unsatisfied demand who were Attenders,	12
Of the 178 with unsatisfied demand who were Non-Attenders,	27

	Not available
Of the 307 with unsatisfied demand,	62 cited this barrier to attendance
Of the 129 with unsatisfied demand who were Attenders,	24
Of the 178 with unsatisfied demand who were Non-Attenders,	38

	Too far to go
Of the 307 with unsatisfied demand,	66 cited this barrier to attendance
Of the 129 with unsatisfied demand who were Attenders,	30
Of the 178 with unsatisfied demand who were Non-Attenders,	36

	Feel uncomfortable
Of the 307 with unsatisfied demand,	1 cited this barrier to attendance
Of the 129 with unsatisfied demand who were Attenders,	*
Of the 178 with unsatisfied demand who were Non-Attenders,	1

	Poor quality/Not very good, etc.
Of the 307 with unsatisfied demand,	* cited this barrier to attendance
Of the 129 with unsatisfied demand who were Attenders,	*
Of the 178 with unsatisfied demand who were Non-Attenders,	*

	Don't have time
Of the 307 with unsatisfied demand,	136 cited this barrier to attendance
Of the 129 with unsatisfied demand who were Attenders,	61
Of the 178 with unsatisfied demand who were Non-Attenders,	75

Table 10b: BARRIERS TO ATTENDANCE AND UNSATISFIED DEMAND, 1985:
NUMBER PER 1,000 ADULTS (continued)

	Procrastination/Lack of motivation
Of the 307 with unsatisfied demand,	39 cited this barrier to attendance
Of the 129 with unsatisfied demand who were Attenders,	18
Of the 178 with unsatisfied demand who were Non-Attenders,	21

Source: "Survey of Public Participation in the Arts," 1985.

Note: * Less than one person per thousand.

PART III: SOCIALIZATION AND ART MUSEUM ATTENDANCE

Are there factors in an individual's background other than simple demographics that help explain attendance at art museums? The fact that the model presented in Part I had such low predictive ability suggested that there must be. One place to turn for additional explanatory variables is to the possible role played by socialization activities such as art lessons and art appreciation classes and the role of parents in encouraging museum attendance. The SPPA surveys offer an opportunity to explore some of these explanatory variables and to test their relationship to attendance patterns.

In this section I will focus on the three SPPA questions most likely to be linked to attendance at art museums: whether or not, and at what ages, the respondent had taken lessons in the visual arts; whether or not, and at what ages, the respondent had taken art appreciation classes; and whether or not, and the frequency with which, parents had taken the respondent to art museums.

Tables 11a and 11b summarize the responses to these questions. For the first two questions I have reformulated the respondents' answers to identify the earliest age at which the socialization activity took place (rather than all the ages during which the respondent experienced that activity), so that I can test whether beginning socialization earlier has a relationship to participation.

All three of these factors show a strong relationship with increased attendance. The overall attendance rate of 22 percent rises to 45 percent for those who had taken visual arts lessons (Table 11a). On the other hand, for those who had not taken visual arts lessons, the participation rate is only 15 percent. Yet, actual museum visitors are split in half between those who had taken lessons and those who had not (Table 11b).

Table 11a: SOCIALIZATION AND ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985: PERCENTAGES

Question: Have you ever taken lessons or a class in visual arts such as sculpture, painting, print making, photography, film making, etc.?

		Participation Rate
Of all adults,		22% attended
Of adults who had taken lessons,		45% attended
Of adults who had not taken lessons,		15% attended
Of adults who first took lessons at	< 12 years,	62% attended
	12 - 17 years,	37% attended
	18 - 24 years,	54% attended
	25+ years,	40% attended
Of all adults who attended an art museum,		50% had taken lessons
		50% had not taken lessons
Of all adults who had not attended an art museum,		18% had taken lessons
		82% had not taken lessons

Question: Have you ever taken a class in art appreciation or art history?

Of all adults,		22% attended
Of adults who had taken a class,		51% attended
Of adults who had not taken a class,		15% attended
Of adults who first took a class at	< 12 years,	66% attended
	12 - 17 years,	39% attended
	18 - 24 years,	57% attended
	25+ years,	61% attended
Of all adults who attended an art museum,		45% had taken a class
		55% had not taken a class
Of all adults who had not attended an art museum,		12% had taken a class
		88% had not taken a class

Question: Did your parents--or other adult members of the household--take you to art museums or galleries often, occasionally, or never?

Of adults who had attended frequently with parents,	55% attended (last year)
occasionally with parents,	35% attended
never attended with parents,	14% attended

Source: "Survey of Public Participation in the Arts," 1985.

Table 11b: SOCIALIZATION AND ATTENDANCE AT ART MUSEUMS AND ART GALLERIES, 1985: NUMBER PER 1,000 ADULTS

Question: Have you ever taken lessons or a class in visual arts such as sculpture, painting, print making, photography, film making, etc.?

	Number Per 1,000 Adults
Of every 1,000 adults,	219 attended
Of the 248 who had taken lessons,	112 attended
Of the 752 who had not taken lessons,	110 attended
Of the 33 who first took lessons at < 12 years,	21 attended
Of the 115 who first took lessons at 12 - 17 years,	43 attended
Of the 56 who first took lessons at 18 - 24 years,	30 attended
Of the 44 who first took lessons at 25+ years,	18 attended
Of the 219 who attended an art museum,	110 had taken lessons
	109 had not taken lessons
Of the 781 who had not attended an art museum,	137 had taken lessons
	644 had not taken lessons

Question: Have you ever taken a class in art appreciation or art history?

Of every 1,000 adults,	219 attended
Of the 194 who had taken a class,	99 attended
Of the 806 who had not taken a class,	122 attended
Of the 6 who first took a class at < 12 years,	4 attended
Of the 68 who first took a class at 12 - 17 years,	26 attended
Of the 105 who first took a class at 18 - 24 years,	60 attended
Of the 14 who first took a class at 25+ years,	8 attended
Of the 219 who attended an art museum,	98 had taken a class
	121 had not taken a class
Of the 781 who had not attended an art museum,	95 had taken a class
	686 had not taken a class

Question: Did your parents--or other adult members of the household--take you to art museums or galleries often, occasionally, or never?

Of the 47 who had attended frequently with parents,	26 attended (last year)
Of the 297 who had attended occasionally with parents,	105 attended
Of the 656 who had never attended with parents,	92 attended

Source: "Survey of Public Participation in the Arts," 1985.

Note: In this table the totals do not always agree because of rounding errors.

Having taken a class in art appreciation or art history raises the participation rate to 51 percent, but among visitors the ratio of those who had not taken a class to those who had is 5:4. The participation rate is 55 percent for those who remembered having attended art museums frequently with their parents.

With respect to lessons in the visual arts, attendance is highest for those whose first lessons were either during the elementary school years or during the college years, suggesting that both earliness of socialization and the individual's explicit choice of a socialization experience--as opposed to an educational or parental requirement--can be important factors in predicting future attendance. The pool of visitors to art museums during the previous year is divided approximately in half between those who have taken art lessons and those who have not.

Similarly, the role of classes in art appreciation or art history is lower during the high school years than in either elementary school or in the years post high school. The figure of 66 percent attendance for adults who had taken a course in elementary school is one of the highest art museum participation rates I have found in the SPPA data when considering the effects of one variable at a time.

What happens to the participation rate when these three factors are accounted for simultaneously, along with the demographic variables considered earlier? How much do they improve our ability to predict attendance?

Table 12 summarizes the results of a logit model that includes most of the demographic variables used earlier and adds the three socialization factors. All of the socialization variables, along with education, turn out to be highly statistically significant. Age, the race variable for blacks, and the highest income group variable also have coefficients that are statistically significant at the .05 level.

Table 12: LOGIT RESULTS: PREDICTING ATTENDANCE WITH SOCIALIZATION VARIABLES

Variable		Coefficient	Significant at .05 Level?
Intercept		-4.137	
INC2	= 1 if $4,999 < income < $10,000 = 0 otherwise	-0.316	No
INC3	= 1 if $9,999 < income < $15,000 = 0 otherwise	-0.091	No
INC4	= 1 if $14,999 < income < $25,000 = 0 otherwise	-0.196	No
INC5	= 1 if $24,999 < income < $50,000 = 0 otherwise	+0.144	No
INC6	= 1 if $49,999 < income = 0 otherwise	+0.540	Yes
AGE	= age in years	-0.007	Yes
RACE2	= 1 if individual is black = 0 otherwise	-0.852	Yes
RACE3	= 1 if individual is "other" = 0 otherwise	-0.177	No
GEND	= 1 if female = 0 if male	-0.008	No
EDU	= number of years of formal education	+0.186	Yes
LES1	= 1 if individual has ever taken visual arts lessons = 0 otherwise	+0.758	No
APP1	= 1 if individual has ever taken course in art appreciation or history = 0 otherwise	+0.783	No
PAR2	= 1 if parents took respondent to art museums occasionally = 0 if otherwise	+0.625	Yes
PAR3	= 1 if parents took respondent to art museums frequently = 0 otherwise	+1.359	Yes

R-Squared = .22

Logit Equations: P = Probability of attendance for a particular individual.

$$\text{Natural logarithm } (P/1-P) = -4.137 - 0.316(INC2) - 0.091(INC3) - 0.196(INC4) + 0.144(INC5) + 0.540(INC6) - 0.007(AGE) - 0.852(RACE2) - 0.177(RACE3) - 0.008(GEND) + 0.186(EDU) + 0.758(LES1) + 0.784(APP1) + 0.625(PAR2) + 1.359(PAR3)$$

Table 12: LOGIT RESULTS: PREDICTING ATTENDANCE WITH SOCIALIZATION VARIABLES (continued)

Example #1: White female, 40 years old, 16 years of formal education (college graduate), with an income $15,000-$24,999, never took visual arts lessons, never took a course in art appreciation, and never went to an art museum with her parents.

Natural logarithm (P/1-P) = - 4.137 - 0.316(0) - 0.091(0) - 0.196(1)
+ 0.144(0) + 0.540(0) - 0.007(40)
- 0.852(0) - 0.177(0) - 0.008(1)
+ 0.186(16) + 0.758(0) + 0.784(0)
+ 0.625(0) + 1.359(0)

Therefore, P = .16 = Probability of this individual attending an art museum during one year.

Example #2: White female, 40 years old, 16 years of formal education (college graduate), with an income $15,000-$24,999, who took visual arts lessons and a course in art appreciation and went to an art museum frequently with her parents.

Natural logarithm (P/1-P) = - 4.137 - 0.316(0) - 0.091(0) - 0.196(1)
+ 0.144(0) + 0.540(0) - 0.007(40)
- 0.852(0) - 0.177(0) - 0.008(1)
+ 0.186(16) + 0.758(1) + 0.784(1)
+ 0.625(0) + 1.359(1)

Therefore, P = .79 = Probability of this individual attending an art museum during one year.

In an absolute sense, all of the socialization variables add considerably to the probability of attendance. This can be seen in the two examples given above. For the sample person, the probability of attendance jumps dramatically from .16 to .79 when she is assumed to have had all three socialization experiences: taken lessons, attended courses, and attended art museums frequently with her parents.

Figure 4a graphs the logit curve by years of education for the sample individual under these two sets of assumptions, first with no socialization experiences and then with all three socialization experiences. The increment in the probability of attendance that comes from these socialization experiences is clear.

Figure 4a: Logit Analysis--Probability of Attendance by Demographic and Socialization Variables
Graph of Probability of Attendance by Education for Sample Individuals

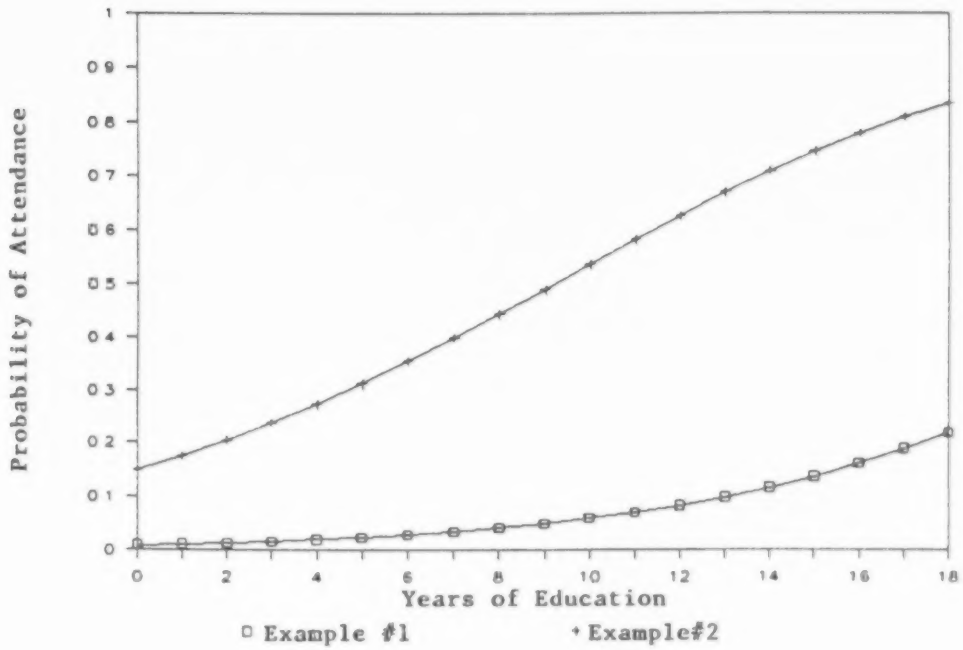
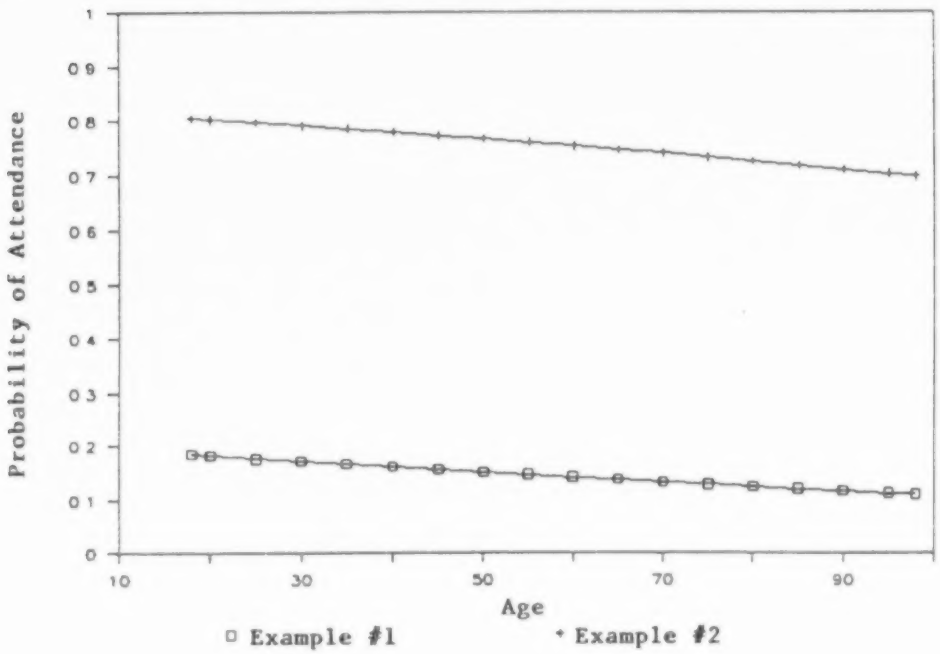


Figure 4b graphs the logit curve by age for the sample individual under the same assumptions. Again the cumulative affect of these socialization experiences is clear.

Figure 4b: Logit Analysis--Probability of Attendance by Demographic and Socialization Variables
Graph of Probability of Attendance by Age for Sample Individuals



78

How much better does this model, which includes socialization variables, do at predicting the log of the odds ratio than the model formulated in Part I, which used only demographic variables? Somewhat better; the proportion of the variation explained has improved from 16 percent to 22 percent. The improvement is primarily in the sensitivity of the model--its ability to predict correctly those who actually attend (47 percent in the socialization model as opposed to 27 percent in the raw demographic model)--but this model is still a long way from what one would like to have in a predictive model. Though the SPPA surveys have made a substantial contribution to our understanding of participation in the arts, there is much work left to do in explaining attendance at art museums.

PART IV: PROFILES OF THE MUSEUM AUDIENCE(S)

Up to this point the analysis has focused on demographic groups one at a time and asked what percentage of each group attends art museums, what percentage of the group would like to attend more, and what percentage of the group cites specified reasons for not attending more. In this section I take a different perspective on the arts audience, asking how these demographic characteristics are distributed among the museum audience and how this audience profile compares to the profile of the general population. But proceeding with this analysis requires a much clearer definition of to which group of individuals we are actually referring when we speak of the "museum audience."

The audience that a museum sees coming through its doors is not the same as the audience that is documented in a cross-sectional sample of the population such as SPPA. This is true for two reasons, one fairly obvious, the other considerably more subtle. First, the audience of a particular museum will differ from the overall average audience profile resulting from a population survey because that museum will be operating in the midst of a number of microfactors that are not typical of the abstract, "average" museum. Its ability to attract certain demographic groups is a function both of its own programming choices, which make it more attractive to certain demographic groups than to others, and of the demographic groups that actually live in the museum's catchment area.

A museum's audience will also differ from the overall demographic profile for another reason. A cross-sectional survey of the adult population allows the identification of <u>visitors</u> (and non-visitors), while a survey of admissions at the door of the museum is a survey of <u>visits</u>. The fundamental

difference lies in differences in frequency of attendance. A visitor who is a frequent attender is much more likely to be picked up in a survey within a museum than an individual who attends, but infrequently. A museum that wishes to figure out how many different individuals it is serving and who they are in demographic terms must carefully account for the fact that frequent attenders are more likely to show up in audience samples in proportion to their frequency of attendance.(26)

While it is undoubtedly an oversimplification, it is not unreasonable to suggest that the audience that is perceived by the museum is the audience of visits, while the audience on which funding agencies focus is the audience of visitors. But which focus is ultimately appropriate is a function of which decisions are at stake. A museum that is interested in better targeting its museum shop to its market, for example, will be concerned with the income profile of visits. The museum that is trying to target its activities to new population groups may be more concerned with the demographics of visitors. The funding agency that is concerned about outreach and new constituencies will stress visitors, while a funding agency that is trying to assess how reliant on paid admissions a museum can become in order to determine appropriate levels of government or private funding will stress visits.

In the literature on audience surveys some have used the terms "frequency" and "reach" to capture this essential difference between these two views of the audience; others have used the terms "depth" and "breadth;" I prefer to use the more straightforward "visits" and "visitors."(27) Whatever vocabulary is used, it is critical to keep these two perspectives distinct for analytical purposes.

Tables 13a and 13b summarize the distribution of visitors and visits according to several of the demographic variables and compare those distributions to the corresponding distribution for the adult population.

Table 13a: AUDIENCE PROFILES--VISITORS, VISITS, AND THE ADULT POPULATION, 1985: PERCENTAGES

Income	Distribution of Adult Population	Distribution of Visitors	Distribution of Visits
< $5,000	8%	6%	9%
$5,000- $9,999	13%	7%	7%
$10,000-$14,999	14%	9%	10%
$15,000-$24,999	25%	21%	20%
$25,000-$49,999	31%	38%	27%
> $50,000	9%	19%	27%
Education			
Grade School	11%	2%	1%
Some High School	12%	4%	4%
High School Grad	38%	24%	13%
Some College	20%	27%	29%
4 Yr College Grad	11%	23%	25%
Graduate School	8%	21%	28%
Age			
18-24 years	16%	16%	21%
25-34 years	24%	28%	23%
35-44 years	18%	22%	23%
45-54 years	13%	14%	14%
55-64 years	13%	11%	8%
65-74 years	10%	7%	7%
75+ years	6%	3%	3%
Gender			
Females	53%	55%	52%
Males	47%	45%	48%
Race			
Black	11%	5%	3%
White	87%	93%	92%
Other	2%	2%	5%
Urbanization			
Central City of SMSA	27%	31%	45%
SMSA but not Central City	41%	49%	40%
Outside an SMSA	32%	20%	15%

Table 13a: AUDIENCE PROFILES--VISITORS, VISITS, AND THE ADULT POPULATION, 1985: PERCENTAGES (continued)

Occupation	Distribution of Adult Population	Distribution of Visitors	Distribution of Visits
Professional	9%	20%	21%
Managerial	9%	15%	17%
Sales/Clerical	24%	29%	30%
Craftsman	9%	6%	4%
Operatives	7%	3%	3%
Laborers	8%	4%	6%
Service Workers	11%	8%	6%
Other*	23%	16%	13%

Source: "Survey of Public Participation in the Arts," 1985.

Note: * This category includes individuals who were unemployed, retired, full-time students, or in the military.

Table 13b: AUDIENCE PROFILES--VISITORS, VISITS, AND THE ADULT POPULATION, 1985: NUMBER PER 1,000 ADULTS

Income	Distribution of Adult Population	Distribution of Visitors	Distribution of Visits
< $5,000	Of 82 adults, there were	13 visitors,	making 66 visits
$5,000- $9,999	126	14	53
$10,000-$14,999	143	21	77
$15,000-$24,999	247	47	149
$25,000-$49,999	308	85	200
> $50,000	94	42	206
Education			
Grade School	Of 110 adults, there were	4 visitors,	making 7 visits
Some High School	118	8	29
High School Grad	376	53	97
Some College	203	60	218
4 Yr College Grad	110	50	188
Graduate School	82	45	212
Age			
18-24 years	Of 161 adults, there were	35 visitors,	making 161 visits
25-34 years	238	61	176
35-44 years	182	48	170
45-54 years	132	30	105
55-64 years	130	24	62
65-74 years	97	16	54
75+ years	59	6	24
Gender			
Females	Of 528 adults, there were	121 visitors,	making 392 visits
Males	472	99	359
Race			
Black	Of 108 adults, there were	12 visitors,	making 23 visits
White	873	203	693
Other	19	5	35
Urbanization			
Central City of SMSA	Of 271 adults, there were	69 visitors,	making 339 visits
SMSA not Central City	413	107	302
Outside an SMSA	316	44	110

Table 13b: AUDIENCE PROFILES--VISITORS, VISITS, AND THE ADULT POPULATION, 1985: NUMBER PER 1,000 ADULTS (continued)

Occupation	Distribution of Adult Population	Distribution of Visitors	Distribution of Visits
Professional	Of 89 adults, there were	44 visitors,	making 155 visits
Managerial	85	32	130
Sales/Clerical	240	64	227
Craftsman	91	13	27
Operatives	73	7	19
Laborers	80	8	47
Service Workers	108	17	47
Other*	234	35	100

Source: "Survey of Public Participation in the Arts," 1985.

Note: * This category includes individuals who were unemployed, retired, full-time students, or in the military.

To estimate visits from the SPPA '85 data in order to construct these tables, individuals who indicated they had visited an art gallery or art museum in the previous year were weighted according to their stated frequency of attendance.(28)

Figures 5a and 5b and 6a and 6b display the information in Tables 13a and 13b as bar charts, giving audience profiles according to income and education--the two key variables whose distribution museums attempt to manage through reaching out to new and underrepresented constituencies--and comparing them to the overall adult population.

Looking first at the distribution of visitors, the audience is composed disproportionately of individuals with incomes over $25,000 (as compared to their relative proportion in the overall population). Also overrepresented are individuals with more than a high school education. Visitors are slightly younger, more likely to be white, and less likely to come from outside of urbanized areas than the overall adult population. Professionals are twice as likely to be found among visitors to art museums as among the general population.

Among visits, upper income and more highly educated individuals are even more overrepresented, indicating that these individuals are not only more likely to attend art museums but that they also attend more frequently. From the individual museum's perspective, this means that an income or education profile of visits will give a picture of an audience more weighted toward the upper categories than a profile of the actual, identifiable visitors who are being served. This is not a new phenomenon; earlier studies have noticed much the same pattern, which has not changed substantially in the twenty-five years for which various data sources are available.(29)

Figure 5a: Income Profile of the Audience for Art Museums and Art Galleries, 1985: Percentage Distribution of Visitors, Visits, and the Adult Population

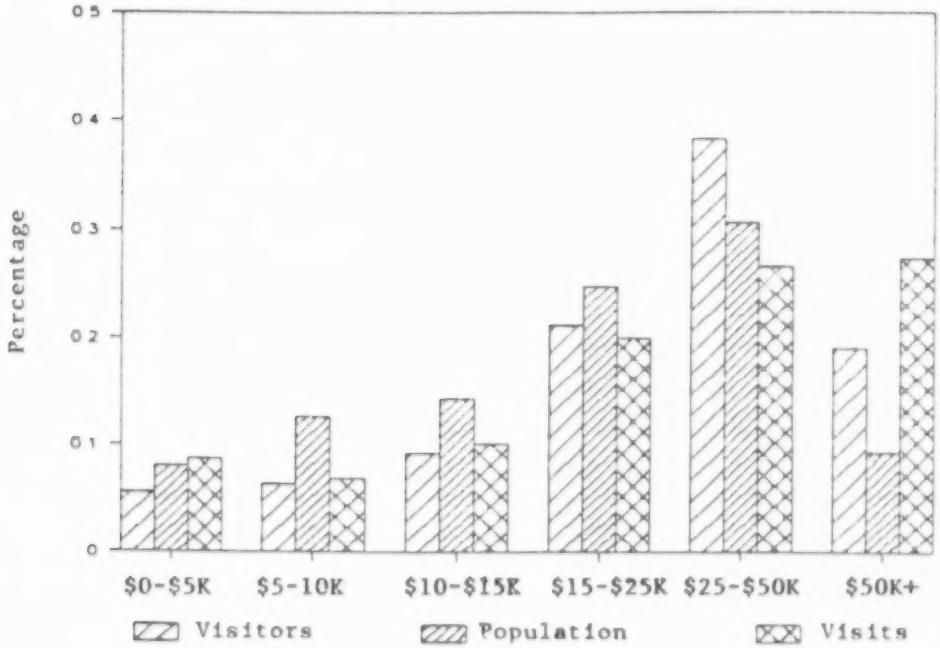


Figure 5b: Income Profile of the Audience for Art Museums and Art Galleries, 1985: Total Number of Visitors, Visits, and the Adult Population

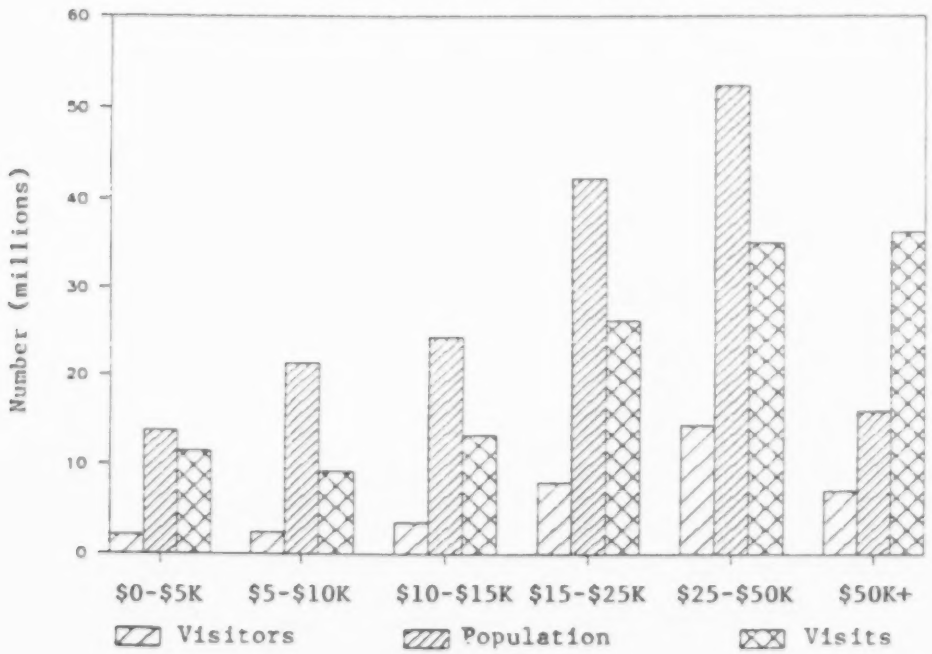


Figure 6a: Education Profile of the Audience for Art Museums and Art Galleries, 1985: Percentage Distribution of Visitors, Visits, and the Adult Population

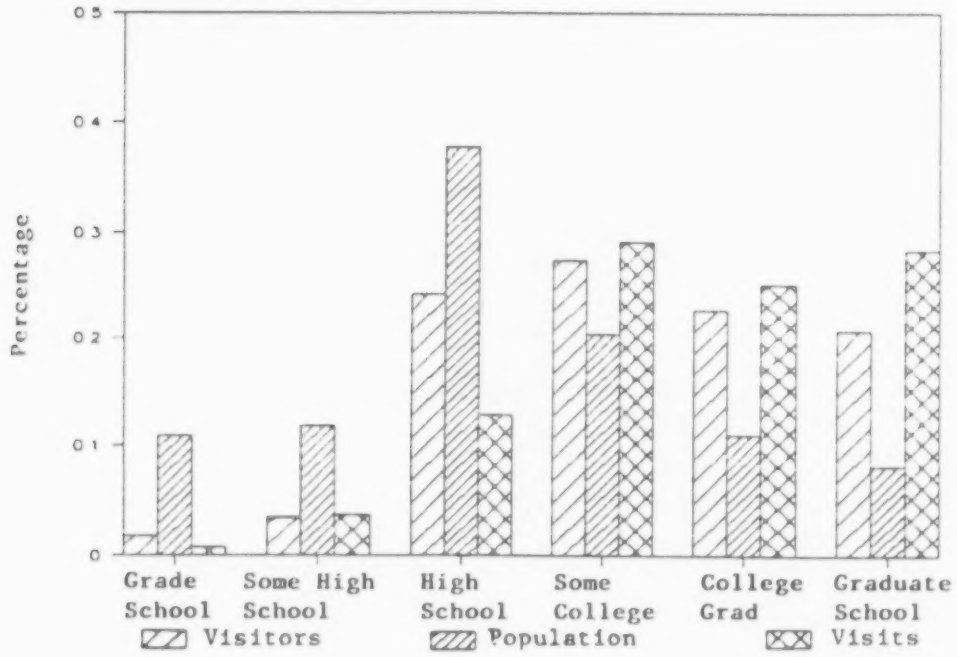
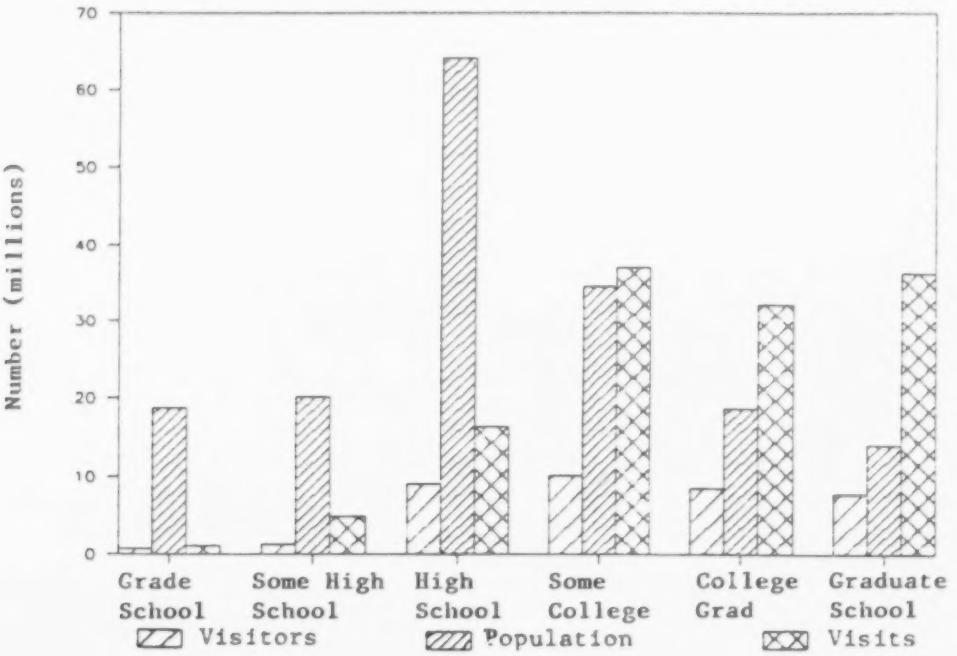


Figure 6b: Education Profile of the Audience for Art Museums and Art Galleries, 1985: Total Number of Visitors, Visits, and the Adult Population



While these distributions provide useful bases by which to compare aggregate changes in the museum audience over time, as well as to compare a particular museum's audience to the aggregate audience, we should not be too hopeful that interventions in the operation of art museums will succeed in dramatically changing the audience profile. These aggregate profiles are very robust, reflecting a variety of factors not the least of which is the interaction of the population's tastes with its demographic characteristics. Research into audience demographics has repeatedly shown that, while short term changes in the audience profile may be attained through very visible and popularly attractive exhibitions or programs, it is much more difficult to sustain these changes over a longer time period.(30)

But note that a growth in attendance figures is not incompatible with an overall stability in the profile of the audience. The size of the audience can increase, either through new attenders or through increases in the frequency of attendance of previous attenders, while the demographic profile of the audience might change very little (except to reflect general societal changes in the level of income or the level of education). Another way to state this is that the raw numbers per 1,000 adults in Table 13b could increase while the relative percentages in Table 13a remained more or less the same.

Table 14 presents a set of calculations for the average number of visits per adult and visits per visitor disaggregated by income and by education level. The average number of visits per adult per year is 0.75; the average American adult attends an art museum or art gallery once every 16 months. Visits per adult remain more or less at this level across income groups with the exception of individuals with incomes over $50,000 who attend art museums an average of 2.26 times each. Restricting our attention to those visitors who actually visited an art museum in the previous year, the average number of

visits per visitor is 3.42; individuals who go to art museums go slightly more than once every four months. Only the lowest income group (5.33 visits per visitor) and the highest income group (5.03 visits per visitor) have rates substantially different from the overall rate. (Separating students from non-students does not remove the apparent anomaly in the lowest income group.)

Table 14: FREQUENCY OF ATTENDANCE BY INCOME AND EDUCATION, 1985

	Visits Per Adult	Visits Per Visitor
Overall Mean	0.75	3.42
Income		
< $5,000	0.83	5.33
$5,000- $9,999	0.43	3.75
$10,000-$14,999	0.55	3.80
$15,000-$24,999	0.62	3.28
$25,000-$49,999	0.67	2.41
> $50,000	2.26	5.03
Education		
Grade School	0.06	1.60
Some High School	0.24	3.64
High School Grad	0.26	1.84
Some College	1.08	3.65
4 Yr College Grad	1.71	3.80
Graduate School	2.58	4.69

Source: "Survey of Public Participation in the Arts," 1985.

Note: The number of visits per year for each respondent was estimated from the respondent's answer to the question: "How many times did you do this [visit an art museum or an art gallery] last month?" For a detailed discussion of the procedure used see Note #28.

Across education levels, visits per person increase from 0.06 to 2.58. Visits per visitor are lowest for individuals with only a grade school education--1.60 visits per visitor--and highest for those with at least some graduate school education--4.69 visits per visitor. The dip to 1.84 visits per visitor for high school graduates is another anomaly in the data for which I have not been able to discover a satisfactory explanation.

This is another point at which the SPPA '85 results can be compared with Harris' 1984 Americans and the Arts survey.(31) Though the documentation is not explicit, Harris reports a mean of 2.7 visits per visitor for his data, and, using the participation rate calculated by Harris, one can infer a mean of 1.57 visits per person. This latter figure, which is twice the per capita frequency rate calculated from the SPPA '85 data, can be mostly explained by Harris' overestimation of the participation rate. Yet, his estimate of mean visits per visitor is lower than suggested by the SPPA '85 data--2.7 as compared to 3.42 visits per visitor.

Projecting my SPPA '85 estimate of 0.75 visits per adult to the entire 1985 adult population leads to a rough estimate of 128 million visits made by 37.5 million adult American visitors to art museums and art galleries in 1985. However, because of the number of assumptions necessary to derive an overall estimate from the SPPA data, one should not place too much confidence in this overall estimate.

What do other sources say about the volume of attendance at American art museums? Museums USA was the first major cross-sectional study of American museums. It estimated that in 1971-72 there were 1821 museums that met the accreditation criteria of the American Association of Museums, 340 of which were primarily art museums.(32) According to the survey results, these museums had an average attendance of 127,000 in that year for a total of 43 million visits. The 186 art/history museums had an average attendance of

94,000 visits, or an additional 17.5 million visits for a total of 60.5 million visits. In this study the definition of attendance was a broad one including general attendance by adults and children, attendance at special exhibits, attendance by school class groups, attendance at workshops and classes and attendance at performing arts presentations, films, etc. It should also be noted that these attendance figures will include foreign tourists. Taken together these lead to a more inclusive total attendance figure than the one that can be derived from SPPA.

More recently, the Institute of Museum Services commissioned the National Center for Education Statistics to undertake a more comprehensive study of the museum universe.(33) This 1979 study used a slightly broader definition of a museum that included nonprofit museums without professional staff. This study identified a universe of 4,408 museums, 609 of which were defined as primarily art museums. These museums had an average annual attendance of 81,817. This figure is lower than the Museums USA figure from seven years earlier because of the broader definition of museums, which brought many smaller museums into the overall calculations, rather than because of any substantial fall in museum attendance. This figure projects to a total of 49.8 million visits in 1979. Yet, these figures are not particularly reliable because the survey also uncovered the fact that only 247 of the art museums were using what could be termed "accurate attendance measurement methods;" the others were forced to estimate. And once again this total includes many individuals beyond the American adults on whom SPPA focused.

Despite their drawbacks, these benchmarks suggest that the aggregate figures derived from SPPA reflect overestimation on the part of the respondents. It would not be surprising if the SPPA estimate is high by a factor of two or more. (An estimate derived from the Harris data would be

even more extreme. Extrapolating the 1984 Harris figures to the adult population leads to the highest estimate of all, 267 million visits to art museums by American adults in 1984! Would that it were so.)

The fact that the overall estimates derived from the frequency of attendance data are high does not necessarily imply that the distributions of visits are incorrect. Unless one wishes to argue that individuals in certain income groups or educational levels are more likely to overestimate their attendance patterns than individuals in other demographic groups, using relative frequency of attendance to generate the distributions of visits presented in Tables 13a and 13b is a reasonable procedure.(34)

It is my hope that his monograph has provided a solid base on which museums can begin and expand the study of their own audiences in a systematic fashion. It is increasingly important for a museum to understand the population it serves as well as the population it does not yet serve.(35) A museum can change; it can change itself or it can work to change its audience. Either kind of change will be difficult, but it will be impossible to measure one important aspect of that change--changes in the makeup of its audience--if the museum does not document and understand its current audience first.(36)

Such an understanding begins with attendance figures and is enhanced by demographic information, but it will not be complete without a better understanding of audience values and motivations. That work is just beginning. One of the next steps is to turn to measures of museum effectiveness: What is the quality of a visit to our museum? In studying their audiences, museums will do well to heed the reminder of Alma Wittlin:

> Neither visitors' books in which the attendance is supposedly registered nor the stricter control of the turnstile at the gate of the museum which mechanically records the number of visitors is a true indicator of performance. At their best they record the number of warm bodies entering the premises.(37)

NOTES

(1) Alma S. Wittlin, Museums: In Search of a Usable Future (Cambridge, Mass.: M.I.T. Press, 1970), p. 76.

(2) Wittlin, Museums, pp. 102-103.

(3) Nathaniel Burt, Palaces for the People: A Social History of the American Art Museum (Boston: Little, Brown and Company, 1977), pp. 282-283; and Karl E. Meyer, The Art Museum: Power, Money, Ethics (New York: William Morrow and Company, 1979), pp. 64, 121.

(4) Burt, Palaces for the People, 14.

(5) Theodore L. Low, The Museum as a Social Instrument (New York: The Metropolitan Museum of Art for The American Association of Museums, 1942).

(6) For a collection of articles discussing this theme see the Spring 1985 issue of The Journal of Arts Management and Law, "Consumer Behavior and the Arts," Vol. 15, No. 1. See also Marilyn G. Hood, "Staying Away: Why People Choose Not to Visit Museums," Museum News, Vol. 61, No. 4, April 1984, pp. 50-57.

(7) Wittlin, Museums, pp. 156-157 and note 35; and The Commission on Museums for a New Century, Museums for a New Century (Washington, D.C.: American Association of Museums, 1984), pp. 64-66.

(8) Paul DiMaggio, Michael Useem, and Paula Brown, Audience Studies of the Performing Arts and Museums: A Critical Review, Research Division Report #9 (Washington, D.C.: National Endowment for the Arts, November 1978).

(9) DiMaggio, Useem, and Brown, Audience Studies, p. 33.

(10) An example of the latter approach is contained in Alan L. Feld, Michael O'Hare, and J. Mark Davidson Schuster, Patrons Despite Themselves: Taxpayers and Arts Policy (New York: New York University Press, 1983), pp. 74-75.

(11) Unfortunately, because the Bureau of the Census has masked the regional variables on the data tape that is publicly available to protect the confidentiality of the respondents, it is not possible to explore regional differences any further than through the simple analyses that are presented at the end of Tables 1a and 1b. These analyses were prepared separately by the Bureau of the Census from the complete data tape and provided to the National Endowment for the Arts.

(12) For a useful discussion of multiple classification analysis using an arts example with SPPA data see John P. Robinson, Carol A. Keegan, Marcia Karth, and Timothy A. Triplett, Public Participation in the Arts: Final Report on the 1985 Survey, "Volume I: Overall Project Report," 1987, pp. 62-76, unpublished report available from the Research Division, National Endowment for the Arts.

(13) A relatively readable presentation of logit analysis is contained in Robert S. Pindyck and Daniel L. Rubinfeld, Econometric Models and Economic Forecasts (New York: McGraw-Hill, 1981), pp. 275-301.

(14) John P. Robinson, Carol A. Keegan, Terry Hanford, and Timothy A. Triplett, Public Participation in the Arts: Final Report on the 1982 Survey, Appendix B, unpublished report available from the Research Division, National Endowment for the Arts.

(15) National Research Center of the Arts, Inc., Americans and the Arts: A Survey of Public Opinion (New York: Associated Councils of the Arts, 1975), p. 59 [1973 study]; National Research Center of the Arts, Inc., Americans and the Arts: A Survey of the Attitudes Toward and Participation in the Arts and Culture of the United States Public (New York: Associated Councils of the Arts, August 1975), p. 23 [1975 study]; National Research Center of the Arts, Inc., Americans and the Arts (New York: American Council for the Arts, 1981), p. 8 [1980 study]; National Research Center of the Arts, Inc., Americans and the Arts (New York: Louis Harris and Associates, October 1984), p. 22 [1984 study].

(16) D. S. Abbey and Duncan F. Cameron, The Museum Visitor: III--Supplementary Studies (Toronto: Royal Ontario Museum, 1961), cited in DiMaggio, Useem, and Brown, Audience Studies, p. 10.

(17) J. Mark Davidson Schuster, "Making Compromises to Make Comparisons: Notes on Cross-National Research and Arts Policy," paper presented at the Fourth International Conference on Cultural Economics and Planning, Avignon, France, 12-14 May 1986, forthcoming in the Journal of Cultural Economics.

(18) Market & Opinion Research International Limited, unpublished report on a survey conducted for BBC "Panorama," 26 November 1981 (Some results from this survey have been published in John Myerscough, Facts About the Arts 2: 1986 Edition (London: Policy Studies Institute, September 1986), pp. 294-301); Ministere de la Culture, Service des Etudes et Recherches, Pratiques Culturelles des Francais: Description Socio-Demographique--Evolution 1973-1981 (Paris: Dalloz, 1982), report of a survey conducted by ARCmc; Official Statistics of Sweden, Cultural Statistics: Activities, Economy and Cultural Habits 1980-1984 [Kulturstatistik] (Stockholm: Statistics Sweden, 1987); Ministere des Affaires Culturelles du Quebec, Chiffres a L'Appui, Bulletin du Service de la Recherche et de la Planification, Vol. 2, No. 2, May 1984, pp. 9-14, report of a public opinion poll conducted by the Centre de Recherche sur l'Opinion Publique in 1983.

(19) Market & Opinion Research International Limited, Attitudes to Museums & the Armouries in Great Britain: Quantitative Research among the General Public, and Preliminary Findings of Tower Visitors, unpublished research report for The Armouries, London, England, January 1985, p. 2.

(20) Market & Opinion Research International Limited, Public Attitudes to Arts Funding, unpublished research report for BBC "Kaleidoscope," London, England, March 1985, p. 1.

(21) Social and Cultural Planning Office, Social and Cultural Report 1984 (Rijswijk, The Netherlands: Social and Cultural Planning Office, no date), p. 199.

(22) Market & Opinion Research International Limited, unpublished report on a survey conducted for BBC "Panorama," 26 November 1981. Some of these findings may be of interest to the readers of the current monograph: Trade union members were more likely to go to museums than non-members (31%:28%), but non-members were more likely to go to art exhibitions (15%:21%). Participation rates were highest among persons intending to vote Conservative, somewhat lower for those intending to vote Social Democrat/Liberal Alliance, and lowest for Labour (35%:29%:25% for museums and 27%:21%:13% for art exhibitions). Not surprisingly, museum participation rates were the highest among those who supported public funding for ballet, opera, or theatre: 36-38 percent of supporters attended museums, 26-28 percent attended art exhibitions. Participation rates were roughly three times higher for individuals who had heard of the Arts Council of Great Britain.

(23) Ministere de la Culture, Service des Etudes et Recherches, Pratiques Culturelles des Francais, p. 151.

(24) Ministere des Affaires Culturelles du Quebec, Chiffres a L'Appui, May 1984, pp. 9-14.

(25) When I wrote about this paradox in the first draft of this monograph I suggested that it might indicate a separation between societal expectations--"I ought to go to museums because it is considered a worthy thing to do."--and personal desires--"I am not really motivated to go."

Since then readers have suggested two other possible explanations. Pam Brusic has suggested that, "...today people are more burdened with personal than societal expectations--'If I want to be a well-informed and cultured person, I ought to go to museums.'--and are more likely to mean lack of ability to organize their personal time sufficiently to attend when they cite 'lack of motivation.'...(T)here is an undertone of self-disapproval in a 'lack of motivation' response and...to lack motivation is generally thought of as a personal character flaw...(T)his alternate explanation..reflects more on the respondent's attitude toward himself than toward the museum he is not 'motivated' to attend."

Harold Horowitz has offered a more prosaic explanation. When respondents got to this point in the survey they were asked if they would have liked to have gone to various artistic activities more often. Thinking that the long survey was almost over, they answered "Yes," but they were then asked a series of questions about barriers to attendance for each of the art forms for which they had indicated a desire to attend more often. Not having well-thought-out reasons in mind, they gave a vague reponse that was invariably coded "lack of motivation."

These three rival explanations illustrate well the difficulty of extracting definitive theories and explanations even from a dataset as complete and as carefully collected as SPPA '85.

(26) For a further discussion of these concepts see Feld, O'Hare, and Schuster, Patrons Despite Themselves, p. 74; and Michael O'Hare, "The Audience of the Museum of Fine Arts," Curator, Vol. 17, No. 2, June 1974, p. 129.

Unfortunately, this important distinction is often overlooked; for example, the otherwise excellent manual, Surveying Your Arts Audience, published by the Research Division of the National Endowment for the Arts (Washington, D.C.: National Endowment for the Arts, 1985) is silent on this subject.

(27) Feld, O'Hare, and Schuster, Patrons Despite Themselves, p. 249; and DiMaggio, Useem, and Brown, Audience Studies, p. 37.

(28) SPPA '85 used two-part questions to ascertain levels of participation in various artistic activities. The first part asked whether or not the respondent had participated in the activity in the previous year, the second how often the respondent had actually attended in the previous month. Robinson, et. al., have studied apparent inconsistencies between the answers to these two parts and have concluded that it is most likely that the monthly frequency question overestimates frequency of attendance because respondents "telescope" their previous year's experience into the previous month. (It is still logically possible, however, that respondents underestimate their annual participation.) Robinson, et. al., Public Participation in the Arts: Final Report on the 1982 Survey, pp. 227-233.

In the analysis of the relative profiles of the museum audience I have used the frequency data to weight respondents' attendance to calculate the distribution of visits. This procedure is valid as long as there is no reason to believe that individuals in one demographic grouping are more likely to overestimate their attendance than individuals in another demographic grouping.

SPPA '85 was conducted over six months. I weighted each month's respondents by a weight that was the product of how many individuals in the total population each respondent represented (a function of his or her demographic characteristics) times the frequency of attendance by that respondent in the previous month. Adding the six estimates together gave an estimate of the total number of visits to art museums made by the total adult population over those six months. I then multiplied these factors by two to represent one entire year of attendance. In cases where the frequencies were reported in categories--e.g. 2-3 times in the month--I used the lower bound of the interval to represent the frequency of attendance, using the most conservative assumption in a situation where there is reason to believe that overestimation is common.

I tested the reasonableness of this procedure by doing a sensitivity analysis, performing a second analysis using the midpoints of the categories (and 8 visits for the 6+ category). The distributions of visits across the various demographic variables changed by only one percentage point in one or two cases. Thus, the percentage distributions are not sensitive to the choice of frequency to represent the categories.

(29) Feld, O'Hare, and Schuster, Patrons Despite Themselves, pp. 80-83; also, J. Mark Davidson Schuster, unpublished comparison of results from the Baumol and Bowen audience surveys in the 1960's (William J. Baumol and William G. Bowen, Performing Arts: The Economic Dilemma (Cambridge, Mass.: M.I.T. Press 1967, pp. 71-98.) with results from the Americans and the Arts surveys of the 1970s (see note 15).

(30) A variety of studies done in Great Britain and France, particularly under the auspices of the Research Division of the French Ministry of Culture, suggest that audience demographics are surprisingly stable across fine art forms, across regions, and over time. Unfortunately, there has been no attempt to bring them together in one place to further explore the resilience of this stability.

(31) National Research Center of the Arts, Inc., Americans and the Arts, [1984 study], pp. 62 and 65.

(32) National Research Center of the Arts, Museums USA: A Survey Report (Washington, D.C.: U.S. Government Printing Office, January 1975), pp. xi and 130. In the Appendix to this monograph I report on an analysis using the American Association of Museum's 1985 Official Museum Directory, from which I derive an estimate of 274 accredited art museums.

(33) Lewis C. Price, Lisa DiRocco, and Janice D. Lewis, Contractor Report: Museum Program Survey, 1979 (Washington, D.C.: National Center for Education Statistics, March 1981), pp. 52-64. This report is also referred to as the "Museum Universe Survey."

(34) See note 27.

(35) This is one of the points stressed in Wittlin's "Twelve-Point Program for Museum Renewal." Wittlin, Museums, pp. 212-213.

(36) As a starting point see, for example, Marilyn G. Hood, "Getting Started in Audience Research," Museum News, Vol. 64, No. 2, February 1986, pp. 25-31; and Research Division, National Endowment for the Arts, Surveying Your Arts Audience.

(37) Wittlin, Museums, p. 161.

APPENDIX:

AN EXPLORATORY ANALYSIS OF THE RELATIONSHIP BETWEEN PARTICIPATION RATES AND THE SUPPLY OF ART MUSEUMS

In Part I of this monograph I suggested that part of the observed difference in participation rates across geographical areas may be due to the relative supply of art museums and art galleries: the more museums, the more opportunity for attendance, and the higher the participation rate. In this Appendix, I report on a brief, exploratory analysis of this relationship.

Though the geographic variables are masked on the public data tape to protect the identity of the SPPA survey respondents, the U. S. Bureau of the Census has prepared a series of tables that provide a variety of analyses of participation for various art forms over several different sets of geographic boundaries. I focus here on an analysis by state, which separates out the fourteen states whose adult population was greater than 5 million individuals (or, equivalently, whose SPPA sample size was at least 400), and an analysis by subregion.

The first task was to determine the number of art museums and art galleries in each of the fourteen states and in each of the nine subregions. The data source used was the American Association of Museum's Official Museum Directory for 1985.(1) In this directory, museums are listed by category. I began by compiling a list of all of the museums and galleries that were listed under the "Art" heading. This included the subheadings "Art Association Galleries," "Art Museums and Galleries," "Arts and Crafts Museums," "China, Glass and Silver Museums," "Civic Art and Cultural Centers," "Decorative Arts Museums," "Folk Art Museums," and "Textile Museums." Institutions listed under the category "Art Associations, Councils and Commissions, Foundations and Institutes" were not included in the master list unless they also appeared in another of the categories mentioned above. The list was then sorted to

remove duplicates; institutions in Puerto Rico, the Virgin Islands, American Samoa, and Canada were also removed. I then turned to the list of AAM accredited museums to identify those separately. Any museum that showed up in the accreditation list and that was clearly an art museum not already included in the master list was added. This led to a list of 1275 art museums and art galleries in the 50 states plus the District of Columbia, 274 of which had been accredited by the AAM. The resulting distributions of museums by state and by subregion are summarized in Table A1.

Table A1: Distribution of Art Museums and Art Galleries for Selected States and Subregions

State	Number of Art Museums	Number of Accredited Art Museums
California	112	21
Florida	47	14
Georgia	29	4
Illinois	38	6
Indiana	27	7
Massachusetts	61	17
Michigan	33	11
New Jersey	21	5
New York	137	29
North Carolina	42	8
Ohio	53	13
Pennsylvania	53	8
Texas	56	12
Virginia	24	4
Subregion		
New England	148	32
Mid Atlantic	211	42
East North Central	185	46
West North Central	96	23
South Atlantic	226	54
East South Central	65	10
West South Central	92	23
Mountain	98	14
Pacific	154	30
Total	1,275	274

Source: American Association of Museums, The Official Museum Directory: 1985 (Wilmette, Illinois: National Register Publishing Co., 1984), pp. A-14 - A-18 and 971-980.

100

The participation rates for art museums and art galleries in these states and subregions have already been reported in Table 1a.

In order to analyze the relationship between participation rates and the supply of art museums I used regression analysis to measure the strength of the relationship between these variables. I used the participation rate as the dependent variable and the number of art museums and the number of accredited art museums as the key independent variables.

I also constructed two transformations of these independent variables. Hypothesizing that participation rates might be more sensitive to the density of institutions than to the raw number of institutions, I calculated indices of the number of art museums per adult and the number of art museums per square mile for each of the geographic divisions.(2) (The same was done for accredited museums per adult and per square mile.)

Finally, I added two other independent variables: education level--measured as the median number of years of school completed for persons 25 years old and over in each state and subregion in 1980; and income level--measured as the median family income in 1979 in each state and subregion.(3) The first of these was likely to be particularly important given the importance of education as an explanatory variable in the other analyses included in this monograph.

Table A2 summarizes the results of seventeen different regression models that made use of these eight independent variables, either individually or in pairs, and tested their relationship to the participation rate for the 14 selected states for which data are available. Looking at the R-squared statistics, the models that include only a supply variable as an independent variable perform very poorly. At best only 6 percent of the variation in participation rates across these 14 states can be explained by one of the supply variables. On the other hand, education level by itself explains 33 percent of the variation in participation rates. When any one of the supply variables is added to education level as a second independent variable, the value of R-squared goes up only slightly, often only in the fourth or fifth decimal place.

In every model in which education level is included its coefficient is significant at the .05 level, and no other variable has a statistically significant coefficient in any of the models that look at participation rates by state.

In a number of cases, the coefficient of the distribution variable becomes slightly negative upon the introduction of education or income into the model, indicating that, after controlling for the other independent variable(s), the participation rate across states tends to go down as the supply of art museums increases. None of these negative coefficients is statistically significant, however, so that one cannot conclude that the relationship is actually negative in the population.

Taken together these results further reinforce the importance of education level as an explanatory variable for participation rates and suggest that the supply of art museums, however it is measured, has no identifiable influence on participation rates across states.

102

Table A2: Regression Analyses of Participation Rates by States

Dependent Variable	Independent Variables								
	Demographics		Geographic Distribution of Art Museums and Art Galleries						
Participation Rate	Education Level	Income Level	Number of Art Museums	Art Museums Per Capita	Art Museums Per Square Mile	Number of Accredited Art Museums	Accredited Museums Per Capita	Accredited Museums Per Square Mile	R-Squared
X			X						.06
X	X *								.33
X	X *		X -						.33
X						X			.06
X	X *					X -			.34
X				X					.001
X	X *			X					.33
X							X		.008
X	X *						X -		.33
X					X				.01
X	X *				X -				.34
X		X							.09
X	X *	X							.34
X	X *	X -	X -						.34
X								X	.02
X	X *							X -	.34
X	X *	X -				X -			.36

Notes: * Coefficient is significant at the .05 level.

- Coefficient is negative.

Table A3 summarizes the results of the same models as applied to participation rates measured over the nine subregions. Many of these results are similar to those for the selected states. By themselves, the supply variables explain very little of the variation in participation rates across regions. The best is art museums per capita, which explains 8 percent of the variation. Education level is still the predominant explanatory variable, but this time the R-squared statistics are very high--90 percent and up. Again, adding one of the supply variables to the model that includes education increases R-squared only slightly. And in every model in which education level is used, its coefficient is now significant at the .01 level. Negative coefficients for the supply variable show up in half of the models.

Education level is an excellent predictor of participation rates across subregions, and its influence swamps the influence of the supply variables.

While this preliminary analysis suggests that there is very little relationship between the supply of museums and the participation rate, it is possible that the true relationship has been masked by resorting to geographic boundaries that are too large to really test it. If individuals perceive the supply of museum attendance opportunities more at a metropolitan level than at a state or regional level, it is possible that an analysis of the distribution of museums by city or by SMSA might find a more direct relationship to participation rates. Judith Blau has done considerable work on the geographic distribution of artistic opportunities, particularly at the SMSA level, and her work suggests that the supply of museums is a function of the degree to which elites are differentiated in various geographic areas.(4) To the extent that this is true, more museums would not necessarily result in higher participation rates. Unfortunately, a more detailed analysis of this sort is beyond the scope and the ability of the current monograph, given the geographic analyses available from the Bureau of the Census.

Table A3: Regression Analyses of Participation Rates by Subregions

Dependent Variable	Independent Variables								
	Demographics		Geographic Distribution of Art Museums and Art Galleries						
Participation Rate	Education Level	Income Level	Number of Art Museums	Art Museums Per Capita	Art Museums Per Square Mile	Number of Accredited Art Museums	Accredited Museums Per Capita	Accredited Museums Per Square Mile	R-Squared
X			X						.003
X	X **								.90
X	X **		X						.90
X						X -			.00007
X	X **					X			.91
X				X					.08
X	X **			X * -					.95
X							X		.05
X	X **						X -		.92
X					X -				.03
X	X **				X -				.92
X		X *							.45
X	X **	X							.91
X	X **	X	X -						.91
X								X -	.02
X	X **							X -	.91
X	X **	X				X			.91

Notes: * Coefficient is significant at the .05 level.

** Coefficient is significant at the .01 level.

- Coefficient is negative.

APPENDIX NOTES

(1) American Association of Museums, The Official Museum Directory (Wilmette, Illinois: National Register Publishing Co., 1984), pp. A14-A18 and 971-980.

(2) These data were taken from U.S. Bureau of the Census, Statistical Abstract of the United States: 1987, 107th edition (Washington, D.C.: U.S. Government Printing Office, 1986), pp. 23 and 181.

(3) U.S. Bureau of the Census, 1980 Census of Population, Volume 1: Characteristics of the Population, General Social and Economic Characteristics, PC80-1-C1 (Washington, D.C.: U.S. Government Printing Office, December 1983), Tables 239 and 244.

(4) Judith R. Blau, "The Elite Arts, More or Less de riguer: A Comparative Analysis of Metropolitan Culture," Social Forces, Vol. 64, No. 4, June 1986, pp. 875-905.